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by 7th Edgar A. Mearns.

Edgar A. Mearns.
ANIMAL

BIOGRAPHY;

OR,

AUTHENTIC ANECDOTES

OF THE

LIVES, MANNERS, AND ECONOMY,

OF THE

ANIMAL CREATION,

ARRANGED ACCORDING TO THE SYSTEM OF LINNÆUS.

BY THE REV. W. BINGLEY, A. M.

FELLOW OF THE LINNEAN SOCIETY,
AND LATE OF PETERHOUSE, CAMBRIDGE.

IN THREE VOLUMES.

SECOND EDITION,

WITH CONSIDERABLE ADDITIONS AND CORRECTIONS.

VOL. I.

QUADRUPEDS.

MEARNS
COLLECTION

London:

PRINTED FOR RICHARD PHILLIPS, NO. 71, ST. PAUL'S CHURCH-
YARD; AND SOLD BY ALL BOOKSELLERS.

1804.

S. Rousseau, Printer, Wood Street, Spa Fields.

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BIOGRAPHY

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MRS. SHERBROOKE,

AND

MISS ELIZABETH COAPE SHERBROOKE,

UNITED

IN VIRTUES, IN PURSUITS, AND AFFECTION,

THESE VOLUMES ARE

INSCRIBED,

A TOKEN OF SINCERE ESTEEM AND RESPECT,

BY THEIR MOST FAITHFUL AND

MUCH OBLIGED SERVANT,

WILLIAM BINGLEY.

MISS ELIZABETH COFFE BERNBROOK

AND

MISS ELIZABETH COFFE BERNBROOK

EDITED

IN VERTUE OF HER RIGHTS AND AFFECTION

THREE VOLUMES ARE

ISSUED,

A TOWER OF GIBBS STREET AND TOWER

BY THEIR MOST TALENTED AND

WELL OBLIGED FRIEND

WILLIAM BINGLEY.

P R E F A C E.

IN giving the following Work to the public, I wish to be understood, as laying no claim whatever to attention, except on the score of utility. If however by going somewhat out of the track of former writers, adhering at the same time strictly to system, it shall appear, that I have brought forward anecdotes and observations that tend to promote the study of this delightful science, I shall consider my labour as not having been unprofitably bestowed. For this purpose, besides my own immediate observations, I have ranged through a most expensive collection of books, amounting in number to near a *thousand volumes*; and I have taken in the accounts of nearly all the authentic travellers and historians, from the earliest to the present times.

The principal intention of the work, is to induce, in persons who have not hitherto attended to the subject, a taste for the study of Natural History; and, by confining my remarks almost exclusively to the manners of the animals, I have endeavoured to put such of my readers, as may think the subject worth attention, into a train for looking more deeply into it than any books can possibly lead them, and to point out to them the mode of making observations for themselves in the grand volume of Nature, that lies always open for their perusal.

To the *female reader* I must remark, that every indelicate subject is scrupulously excluded. The dangerous tendency in this respect of the writings of the Comte de Buffon, and a few others, his followers, is too generally known to render any further apology for such a liberty necessary.

The work, as it at present stands, may I think, without impropriety, be denominated an *Animal Biography* *: To this end, I have omitted nearly every thing that did not serve to illustrate the characters of the animals; and the reader will also observe, that to render the anecdotes of their manners as interesting and as little interrupted as possible, by matter not immediately relative to the subject, I have in general confined even the descriptive parts of dimensions, colour, shape, &c. to the first ten or twelve lines of the account. I have also left entirely unnoticed all such animals as afforded nothing but this kind of description; for a sufficient account of these is to be found in almost every authentic book of Natural History extant; but particularly in Dr. Shaw's elegant and valuable work on General Zoology. I am well aware, that the reader may recognize many of the anecdotes. It is impossible entirely to prevent this; but, in order to avoid it as much as possible, I have omitted nearly all those that were the most trite and well known.

In composing these volumes, I have all the way attended to every thing that might be of use in juvenile instruction. Youth are caught by anecdote; and from this peep into nature, many may be induced to look further than they at first

* The Monthly Reviewers in their very handsome critique on the former edition of this work, express their opinion that the title is exceptionable. "Animal Biography (they say) is" equivalent to an account of the lives of living creatures," and is therefore redundant. This strictly speaking, is the case; but since Biography is a term that, by long usage, has become exclusively appropriated to the lives of individuals among mankind, the term Animal Biography may surely, and without impropriety, be considered to express traits of the lives and habits of individual species of the lower orders of animated creation, *as distinct from those of men*. This is the precise signification in which it is here used.—Another critic has altogether objected to the term *Biography*, as having never hitherto been applied to animals. But, doubtless, the compound of $\beta\iota\omicron\varsigma$ and $\gamma\rho\alpha\phi\omega$ is as applicable to the lives of animals, as to those of men.

intended, and to enter with spirit into the study of such more abstruse books as would, at first sight, have alarmed them.

It is necessary that I should explain one circumstance, that may be remarked by critical readers : This is, that, in some instances, an author is quoted, and no reference appears to him in the notes. At the commencement of the work, it was my intention to let the general list of authorities suffice for all, except doubtful cases ; but, after I had proceeded some way, I was induced to change my plan in this respect, and, as far as I then could, to insert no statement, but on an immediate reference to the writer. Where, therefore, this is not found, the reader must conclude, that I had passed the part when the after resolution was formed.

All the writers from whom I have derived information, are, I believe, esteemed authentic : but, even amongst the most careful of these, I have at times found some difficulty in separating truth from falsehood. Many are too apt to depend on report for subjects, that require somewhat more than report for their authentication. We should not, however, be justified in entirely throwing aside even those writings, in which some glaring absurdities are discoverable : but it is necessary, that we should be careful in selecting the sterling grains of truth from the imperfect and drossy matter that frequently surrounds them.—To render myself less liable to censure, I have been extremely careful, wherever any statement appeared doubtful, never to omit citing my authority.

The system to which I have adhered in my arrangement, is that of Linnæus, as corrected by Gmelin, Shaw, and a few other later writers. This, though perhaps not altogether so natural as some others, is, I conceive, the best calculated of any extant to simplify and assist the study.

The figures I have referred to are such authentic ones, as the reader may have admission to at the least expence,---

These are marked in Italics, in the notes, at the commencement of each species, immediately after the list of synonyms.

Christ Church, Hants,
Feb. 1, 1804.

W. B.

I shall esteem myself greatly obliged by the communications of all gentlemen, on the manners and habits of animals, but more particularly of those of Great Britain.

LIST

OF THE

PRINCIPAL WORKS

THAT FORM THE FOUNDATION OF THE FOLLOWING VOLUMES:

INTENDED AS AN

EXPLANATION OF THE REFERENCES *.

- Acerbi.* **T**RAVELS through Sweden, Finland, and Lapland to the North Cape, in the years 1798 and 1799, 2 vols. 4to
London, 1802.
- Adanson.* Voyage to Senegal, the Isle of Goree, and the River Gambia, by M. Adanson. 8vo.
London, 1759.
- Amer. Phil. Tran.* Transactions of the American Philosophical Society, held at Philadelphia. Vols. i. — iv. 4to., Philadelphia, 1771.
- Anderson.* Account of the present state of the Hebrides and the Western Coasts of Scotland. 8vo. Edinb. 1785.
- Recreations in Agriculture, Natural History, Arts, and Miscellaneous Literature. vol. i.---iv. 8vo. London, 1799.
- Ann. Reg.* Annual Register 36 vol. 8vo. London, 1758.
- Anson.* Voyage round the world, in the Years 1740, 1741, 1742, 1743, and 1744, 8vo. London, 1748.

* It may be proper to remark that these authorities are all quoted from a perusal of the volumes themselves, and not through the medium of other books.—Translations of foreign works, as more easy of access, have been in general preferred to the originals.—Such publications as have been quoted only in one or two instances are for the most part omitted in this list, having their titles inserted, at length, in the margin.

- Asiat. Res.* Asiatic Researches, 4 vol. 8vo. London, 1798.
- Bancroft.* Essay on the Natural History of Guiana ;
in South America, 8vo. London, 1769.
- Barbot.* Description of North and South Guinea ;
in Churchill's Coll. of Voyages, vol. v.
London, 1732.
- Barbut.* Genera Insectorum of Linnæus, exempli-
fied by various species of English Insects
drawn from Nature, 4to. London, 1781.
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- Genera Vermium, exemplified by various
specimens of the Animals contained in
the Orders of the Intestina and Mol-
lusca of Linnæus, drawn from nature,
4to. London, 1783.
- Barrington.* Miscellanies, 4to. London, 1781.
- Barrow.* Travels into the Interior of Southern Africa,
in the Years 1797 and 1798. 4to.
London, 1801.
- Barton.* Fragments of the Natural History of Penn-
sylvania, part the first, folio,
Philadelphia, 1799.
- Bartram.* Travels through North and South Carolina,
Georgia, East and West Florida, &c.
8vo. London, 1792.
- Baumgarten.* Travels through Egypt, &c. in Churchill's
Collection of Voyages, vol. i.
London, 1704.
- Beauplau.* Description of Ukraine, in Churchill's
Collection, vol. i.
- Bell.* Travels from St. Petersburg to divers parts
of Asia, 2 vols. 8vo. London, 1764.
- Bewick.* General History of Quadrupeds, 8vo.
Newcastle, 1792.
-
- History of British Birds, 8vo.
Newcastle, 1800.

- Borri.* Account of Cochin China, in Churchill's Collection, vol. ii.
- Borlase.* Natural History of Cornwall, folio.
Oxford, 1758.
- Bosman.* Description of the Coast of Guinea, 8vo.
London, 1721.
- Boyle.* Philosophical Works, edited by Dr. Shaw,
3 vols. 4to. London, 1738.
- Brickell.* Natural History of North Carolina, 8vo.
Dublin, 1743.
- Brisson.* Ornithologie, ou Méthode, contenant la
division des oiseaux, en ordres, sections,
genres, especes, & leurs variétés. 6 tom.
4to. Paris, 1760.
- Browne.* Civil and Natural History of Jamaica.
folio. London, 1754.
- Browne.* Travels in Africa, Egypt, and Syria, from
the Year 1792 to the Year 1798. 4to.
London, 1799.
- Bruce.* Travels to discover the Source of the Nile,
in the Years 1768, 1769, 1770, 1771,
1772, and 1773. 5 vols. 4to.
Edin. 1790.
- Buffon.* Natural History, general and particular ;
translated by Smellie, 8 vols. 8vo. 1785.
- Natural History, of Birds. 9 vols. 8vo. 1790.
- Cartwright.* Journal of Transactions and Events, during
a residence of nearly sixteen Years on
the Coast of Labrador. 3 vols. 4to.
London, 1792.
- Carreri.* Voyage round the World, by Gemelli Car-
reri, in Churchill's Coll. of Voyages,
vol. iv.
- Catesby.* Natural History of Carolina, Florida, and
the Bahama Islands. 2 vols. folio.
London, 1731—43.

- Charlevoix.* Journal of a Voyage to North America :
containing, in particular, a Description
and Natural History of Canada. 2 vols.
8vo. London, 1761.
- Childrey.* Britannia Baconica, or the Natural Rarities
of England, Scotland, and Wales. 8vo.
London, 1660.
- Church.* Cabinet of Quadrupeds. 4to.
London, 1796, &c.
- Churchill.* Collection of Voyages and Travels. 6 vols.
folio. London, 1704, &c.
- Consett.* Tour through Sweden, Swedish-Lapland,
Finland, and Denmark, in the year
1786, 4to. London, 1789.
- Cook.* Voyage to the Pacific Ocean, in 1776,
1777, 1778, 1779, and 1780. 4 vols.
8vo. London, 1784.
- Core.* Travels through Switzerland, with Re-
marks, Characters, &c. 3 vols. 8vo.
London, 1789.
- Crantz.* History of Greenland; containing a De-
scription of the Country and its Inhabi-
tants. 2 vols. 8vo. London, 1767.
- Da Costa.* Historia Naturalis Testaceorum Britanniae.
4to. London, 1778.
- Dampier.* Voyages, containing a voyage round the
world; a supplement to the voyage round
world; two voyages to Campeachy; and
a voyage to New Holland. 3 vols. 8vo---
London, 1699---1763.
- Darwin.* Zoonomia, or the Laws of Organic Life.
2 vols. 4to. London, 1794.
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- Phytologia, or the Philosophy of Agricul-
ture and Gardening. 4to. London, 1800.
- Dale.* History and Antiquities of Harwich, and
Dovercourt, Topographical, Dynastical,
and Political. 4to. London, 1730.

- D'Auteroche.* Voyage to California; with the Natural History of the Province of Mexico, 8vo.
London, 1778.
- Daniel.* Rural Sports, by the Rev. W. B. Daniel,
2 vols. 4to. London, 1801—1803.
- Denon.* Travels in Upper and Lower Egypt, Translated by Francis Blagdon, 2 vols, 12mo.
London, 1802.
- Derham.* Physico-Theology; a Demonstration of the Being of a God from the Works of the Creation.
- Dillon.* Travels through Spain, in a Series of Letters, 4to. London, 1782.
- D'Obsonville.* Philosophic Essays on the Manners of various Foreign Animals. 8vo.
London, 1784.
- Donovan.* Epitome of the Natural History of the Insects of China, 4to. London, 1798.
- Du Halde.* The General History of China, containing a Geographical, Historical, Chronological, Political, and Physical Description of the Empire of China, Chinese Tartary, Corea, and Thibet, 4 vols. 8vo. London, 1736.
- Du Pratz.* History of Louisiana; containing a Description of the Western Parts of Virginia and Carolina, 8vo. London, 1774.
- Edwards, G.* Natural History of uncommon Birds, and some other rare and undescribed Animals, in four parts, 4to. London, 1743, &c.
- Gleanings of Natural History, 3 vols. 4to.
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- Edwards, B.* History, Civil and Commercial, of the British Colonies in the West Indies, 2 vols. 4to. London, 1793.
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Translated from the Danish. 8vo.

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- Ellis.* Natural History of many curious and uncommon Zoophytes, collected from various parts of the Globe, 4to.
London, 1786.
- Ellis.* Voyage to Hudson's Bay in 1746 and 1747, for the purpose of discovering a North West Passage, 8vo. London, 1768.
- Forrest.* Voyage to New Guinea and the Moluccas, 4to. London, 1780.
- Forster.* Voyage round the World, in the Resolution, commanded by Capt. Cook, during the Years 1772, 1773, 1774, and 1775, 2 vols. 4to. London, 1777.
- Fortis.* Travels into Dalmatia, containing general Observations on the Natural History of that Country, and the neighbouring Islands, 4to. London, 1778.
- Goldsmith.* History of the Earth and animated Nature, 8 vols. 12mo. London, 1791.
- Gregory.* Economy of Nature, explained and illustrated on the Principles of Natural Philosophy, 3 vols. 8vo. London, 1798.
- Grieve.* History of Kamtschatka and the Kurilski Islands, 4to. Gloucester, 1764.
- Grose.* Voyage to the East Indies, in the Year 1750, &c. 2 vols. 8vo. London, 1772.
- Hakluyt.* The principal Navigations, Voiages, Traffiques, and Discoveries of the English Nation, made by Sea or Ouer-land, at any time within the compass of these 1500 Years, 3 vols. folio. London, 1598.
- Hamilton.* Account of the East Indies, 2 vols. 8vo. London, 1744.
- Harris.* Aurelian, or Natural History of English Insects, namely Moths and Butterflies, to-

- gether with the Plants on which they feed,
folio. London, 1766.
- Harris.* Collection of Voyages and Travels, 2 vols.
folio. London, 1705.
- Hasselquist.* Voyages and Travels in the Levant, in the
Years 1749, 1750, 1751, 1752, contain-
ing Observations in Natural History, &c.
8vo. London, 1766.
- Hawkesworth.* Account of the Voyages performed by Com-
modore Byron, Capt. Wallis, Capt. Car-
teret, and Capt. Cook, 3 vols. 4to.
London, 1773.
- Hearne.* Journey from the Prince of Wales's Fort in
Hudson's Bay, to the Northern Ocean,
in the Years 1769, 1770, 1771, and 1772,
4to. London, 1795.
- Horreboots.* Natural History of Iceland, folio.
London, 1753.
- Hughes.* Natural History of Barbadoes, folio.
London, 1750.
- Hunter.* Historical Journal of the Transactions at
Port Jackson and Norfolk Island, be-
twixt the Years 1787 and 1792, 4to.
London. 1793.
- Hunter, J.* Observations on certain parts of Animal
Oeconomy, 4to. London, 1792.
- Kaempfer.* Historia Imperii Japonici, ab Engelberto
Kaempfero, 2 tom. folio.
London, 1726.
- Kalm.* Travels into North America, 3 vol. 8vo.
London, 1770, &c.
- Kerr.* Animal Kingdom, or the Zoological System
of Linnæus, vol. i. 4to.
Edinburgh, 1792, &c.
- Kirby.* Monographia Apum Angliæ, or an Attempt
to divide into their natural Genera and

- Families, such of the Linnean Genus, Apis, as have been discovered in England, 2 vol. 8vo. London, 1802.
- Kolben.* Account of the Cape of Good Hope, translated by Medley, 2 vol. 8vo. London, 1731.
- Labillardiere.* Voyage in search of La Pérouse, during the Years 1791, 1792, 1793, and 1794, 2 vol. 8vo. London, 1800.
- La Cépède.* The Natural History of Oviparous Quadrupeds, and Serpents. Translated by Kerr, 4 vol. 8vo. Edinb. 1802.
- La Hontan.* New Voyages to North America, 2 vol. 8vo. London, 1703.
- La Ménagerie.* La Ménagerie du Museum National d'Histoire Naturelle, ou description et histoire des Animaux ; par Citoyens La Cépède et Cuvier. folio. Paris, 1801.
- Latlam.* General Synopsis of Birds, 7 vol. 4to. London, 1781, &c.
- Supplement II. to the General Synopsis of Birds, 4to. London, 1802.
- Lawson.* Description and Natural History of North Carolina, 4to. London.
- Leigh.* The Natural History of Lancashire, Cheshire, and the Peak of Derbyshire, folio. Oxford, 1700.
- Leo Africanus.* Geographical Historie of Africa, written in Arabicke and Italian, by John Leo, Moor, translated by John Povy, folio. London, 1600.
- Lesseps.* Travels in Kamtschatka, during the Years 1787 and 1788, 2 vol. 8vo. London, 1790.
- Lewin.* Birds of Great Britain, with their Eggs, accurately figured, 7 vol. 4to. London, 1789, &c.

- Lewin.* Insects of Great Britain, systematically arranged, and accurately engraved, and painted from nature, with the Natural History of each species, 4to.
London, 1795.
- Linn. Gmel.* Systema Naturæ Caroli a Linné, cura Jo. Frid. Gmelin, 10 tom. 8vo. Lips. 1788.
- Linn. Tran.* Transactions of the Linnean Society, vols. 1—5, 4to. London, 1791, &c.
- Lowthorp.* Abridgment of the Philosophical Transactions to the end of the Year 1700, 3 vol. 4to. London, 1705.
- Marchand.* Voyage round the World, performed during the Years 1790, 1791, 1792, translated from the French of Fleurieu, 2 vol. 4to. London, 1801.
- Marsden.* Natural History of Sumatra, 4to. London, 1784.
- Martyn & Chambers.* } Philosophical History and Memoirs of the Royal Academy of Sciences at Paris, from the Year 1699 to 1720, 5 vol. 8vo. London, 1742.
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- Nazarette.* Voyage to China ; in Churchill's Collection of Voyages, vol. i.
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- Osbeck.* Voyage to China and the East Indies, 2 vol. 8vo. London, 1771.
- Olivier.* Travels in the Ottoman Empire, Egypt, and Persia, betwixt the Years 1793 and 1799, vol. i. ii. 4to. London, 1801.

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- Park.* Travels into the interior Parts of Africa, per-
formed under the Direction and Patron-
age of the African Association, in the
Years 1795, 1796, and 1797, 4to.
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- Paterson.* Narrative of Four Journeys into the Country
of the Hottentots and Caffraria, 4to.
London, 1789.
- Pennant.* General History of Quadrupeds, 2 vol. 4to.
London, 1781.
- Arctic Zoology, 3 vol. 4to. London, 1784, &c.
- British Zoology, 4 vol. 8vo. London, 1776, &c.
- Outlines of the Globe, vol. i. containing a
View of the Western Hindoostan, the
Indies, Island of Ceylon, &c. 4to.
London, 1793.
- Outlines of the Globe, vol. ii. containing a
View of Eastern Hindoostan, East Cape,
the Carnatic, Gangetic Hindoostan, and
the Province of Bengal, 4to. London, 1798.
- Outlines of the Globe, vol. iii. containing a
View of India extra Gangem, China,
and Japan, 4to. London, 1800.
- Outlines of the Globe, vol. iv. containing a
View of the Malayan Isles, New Hol-
land, and the Spicy Islands, 4to.
London, 1800.
- Pérouse.* Voyage round the World, in the Years
1785, 1786, 1787, 1788, 3 vol. 8vo.
London, 1793.
- Phillip.* Voyage to Africa and Barbadoes, in Church-
ill's Collection of Voyages, vol. vi.
- Phil. Tran.* Transactions of the Royal Society, 91 vols. 4to.

- Pluche.* Spectacle de la Nature: Nature displayed,
translated by Humphries, 7 vol. 12mo.
London.
- Pontoppidan.* Natural History of Norway, translated
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London, 1755.
- Purchas.* His Pilgrims. 4 vols. folio. London, 1625.
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- Ray.* Wisdom of God manifested in the Works
of the Creation, 8vo. London, 1709.
- Philosophical Lettèrs betwixt the late learned
Mr. Ray, and several of his ingenious
Correspondents. Published by W. Dcr-
ham, F. R. S. 8vo. London, 1718.
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and Upper Canada, in the Years 1795,
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Rochefoucault Liancourt. 2 vol. 4to.
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- Roe.* Voyage to the East Indies by Sir Thomas
Roe, in Churchill's Collection of Voy-
ages, vol. i.
- Rogers.* Voyage round the World, begun in the
Year 1708, and finished in 1711, by
Capt. Woodes Rogers. London, 1712.
- Russel.* Natural History of Aleppo, and the Parts
adjacent, 2 vols. 4to. London, 1794.
- Saint-Fond.* Travels in England, Scotland and the He-
brides. 2 vols. 8vo. London, 1799.
- Scheffer.* History of Lapland, 8vo. London, 1704.
- Shaw, Dr. G.* General Zoology, or Systematic Natural
History, vol. i.—iii. 8vo. London, 1800.
- Naturalist's Miscellany, or coloured Fi-

gures of Natural Objects, drawn and described from Nature, vol. 1—12. 8vo.

London, 1790, &c.

Shaw. Museum Leverianum: containing select Specimens from the Museum of the late Sir Ashton Lever, Knight, with Descriptions in Latin and English, 4to.
London, 1792.

Shaw, Dr. T. Travels or Observations relative to several Parts of Barbary and the Levant. By Thomas Shaw, M. D. folio.

Oxford, 1738.

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Oxford, 1746.

Skippon. Journey on the Continent; in Churchill's Collections, vol. vi.

Sloane. Voyage to the Islands of Madeira, Barbadoes, Nevis, St. Christopher's, and Jamaica, with the Natural History of the last of those Islands, 2 vols. folio.

London, 1707.

Smellie. Philosophy of Natural History, 2 vols. 4to.

London, 1790, &c.

Smith. Natural History of Nevis, and the rest of the English Leeward Caribee Island. 8vo.

Cambridge, 1765.

——— Travels in Europe, Asia, &c. in Churchill's Collection, vol. ii.

Smith, Dr. J. E. Sketch of a Tour to the Continent in the years 1786 and 1787, 3 vols. 8vo.

London, 1795.

Smith, W. New Voyage to Guinea, describing the customs, manners, soil, climate, &c. 8vo.

London, 1744.

Smyth. Tour in the United States of North America, 2 vols. 8vo.

London, 1784.

- Sommini.* Travels in Upper and Lower Egypt, between the years 1777 and 1780, undertaken by order of the old Government of France: translated by Henry Hunter, D. D. 3 vols. 8vo.
London, 1799.
- Spallanzani.* Dissertations relative to the Natural History of Animals and Vegetables; translated from the Italian; 2 vols. 8vo.
London, 1784.
- Sparman.* Voyage to the Cape of Good Hope, 2 vols. 4to. London, 1786.
- Staunton.* Account of an Embassy from the King of Great Britain to the Emperor of China, 3 vols. 8vo. London, 1797.
- Stedman.* Narrative of a five Years' Expedition against the revolted Negroes of Surinam, 2 vols. 4to. London, 1796.
- Stillington.* Miscellaneous Tracts relating to Natural History, &c. 8vo. London, 1791.
- Stork.* Description of East Florida, with a Journal kept by John Bartram, 4to.
London, 1769.
- St. John.* Letters from an American Farmer: describing the British Colonies in North America, written by Hector St. John, a Farmer in Pennsylvania, 8vo.
London, 1783.
- St. Pierre.* Studies of Nature, 3 vols. 8vo.
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- Tilloch.* Philosophical Magazine; comprehending the various branches of Science, the liberal and fine Arts, Agriculture, Manufactures, and Commerce, vol. i—x. 3 vols. 8vo. London, 1799.
- Townson.* Travels in Hungary in the Year 1793, 4to. London, 1797.
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- Tracts and Observations in Natural History and Physiology, 8vo. London, 1799.
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ON THE

STUDY OF NATURE.

“ONCE upon a time the Seven Wise men of Greece were met together at Athens, and it was proposed that each of them should mention what he thought the greatest wonder in the Creation. One of them, of higher attainments than the rest, explained the opinions of some of the astronomers respecting the fixed stars, that they were so many suns, each having their planets rolling round them, which were stocked with plants and animals like this earth. Fired with the idea, they agreed to supplicate Jupiter that he would at least permit them to take a journey to the Moon, and remain there three days, in order to see the wonders of that place, and give an account of them to the world at their return.—Jupiter consented, and ordered them to assemble on a high mountain, where a cloud should be in readiness to convey them thither. They chose some men of talents as their companions, to assist them in describing and painting the objects they should meet with.

At length they arrived at the Moon, and found a palace there well fitted up for their reception. The day following, being much fatigued with their journey, they remained in the house till noon; and continuing still faint, partook of a most delicious entertainment by way of refreshment, which they relished so much that it overcame their curiosity. This day they only saw, through the windows, that delightful country, adorned with the most beautiful flowers, to which the beams of the Sun gave an uncommon lustre; and heard the singing of the most melodious birds, till evening came on.—The second day they rose very early in order to begin their observations, but some elegant young females of the country calling upon them, advised that they should first recruit their strength, before they exposed themselves to the laborious task they were about to undertake. The delicate meats, the rich wines, and the beauty of these females, prevailed over the resolution of the strangers. Music is introduced, the young ones begin to dance, and all is turned to jollity; so that the whole of this day seemed dedicated to gallantry, till some of the neighbours, envious of their mirth, rushed into the room with swords. With some difficulty they were taken, and it was promised, as a recompence to the younger part of the company, that on the following morning they should be brought to justice.—On the third day their trial was heard, and what with accusations, pleadings, exceptions, and the judgment itself, the whole day was occupied, and the term allowed by Jupiter expired. On their return to Greece, the whole country flocked around

the wise men to hear the wonders of the Moon described ; but all they could say, for it was all they knew, was, that the ground was covered with green, intermixed with flowers ; and that the birds sung delightfully among the trees ; but what was the nature of the flowers they saw, or of the birds they had heard, they were entirely ignorant.—On which they were every where treated with the utmost contempt.”*

This fable was applied with extreme propriety by our great master, Linnæus, to mankind in general. In youth we are, in every respect, too feeble to examine the great objects around us : all that season, therefore, is lost amidst indolence, luxury, and amusement. Little better are we in manhood : settling ourselves in life ; marrying ; bustling through the world ; overwhelmed, at length, with business, cares, and perplexities, we suffer those years also to glide away. Old age succeeds : yet still some employments intervene, till at last we are passed through the world, without scarcely a single recurrence to the admirable works of our Creator ; and, in many instances, even without having at all considered the end for which we were brought into it.—This is, with a few exceptions, the progress of man through life. It is true that every person takes some notice of nature. All can remark the beautiful verdure of

* In the Lectures of Linnæus on the subject of Natural History, he frequently made use of some apt similitude by way of exciting the attention of his audience. The present fable was one that he adopted in his Lecture on Insects.

the fields and woods ; the elegance of the flowers ; the melodious and delightful singing of the birds : yet few indeed ever give themselves the trouble of enquiring one step further, or exhibit any desires of examining into the nature of these wonderful combinations of Divine Power.

It is one material use of the study of Nature, to illustrate this greatest of all truths :—“ That there must be a God : that he must be almighty, omniscient, and infinite in goodness ; and that, although he dwells in a light, inaccessible to any mortal eye, yet our faculties see and distinguish him clearly in his works *.”

In these we are compelled to observe a degree of greatness far beyond our capacities to understand :—we see an exact adaption of parts composing one stupendous whole ; an uniform perfection and goodness that are not only entitled to our admiration, but that command from us the tribute of reverence, gratitude, and love, to the Parent of the Universe. Every step we tread in our observations on Nature, affords us indubitable proofs of his superintendence. From these we learn the vanity of all our boasted wisdom, and are taught that useful lesson, humility. We are compelled to acknowledge our dependance on the protecting arm of God, and that, deprived of this support, we must, that moment, dissolve into nothing.

Every object in the Creation is stamped with the characters of the infinite perfection and overflowing

* Pontoppidan, Pref. p. 1.

benevolence of its author. If we examine with the most accurate discrimination the construction of bodies, and remark even their most minute parts, we see clearly a necessary dependance that each has upon the other ; and if we attend to the vast concurrence of causes that join in producing the several operations of Nature, we shall be induced to believe further, that the whole world is one connected train of causes and effects, in which all the parts, either nearly or remotely, have a necessary dependance on each other. We shall find nothing insulated, nothing dependant only on itself. Each part lends a certain support to the others, and takes in return its share of aid from them.

Previously to entering further into the subject, we will examine for a moment that part of every animal body called the Eye, which, though one of the most conspicuous, is not still the most surprizing part of the body. Here we have exhibited to us nicety of formation, connexions, and uses, that astonish us. We see it placed in a bony orbit, lined with fat, as an easy socket in which it rests, and in which all its motions readily take place. We find it furnished, among many others, with those wonderful contrivances the iris, pupil, and different humours ; and that incomprehensible mechanism the optic nerve, which affords to the brain, in a manner greatly beyond our conceptions, the images of external objects.—How admirable is the construction of the Skeleton ; every particular bone adapted peculiarly to the mode of life and habits of the animal possessing it. The muscular system is still more entitled to our wonder ;

and if we enter into examination of the viscera, the skin, and the other parts of the body, we can fix no bounds to our astonishment.

But all the common operations of Nature, great as they are, become in general so familiar to us, that in a great measure they cease to attract our notice. Thus also all the usual powers of animal life, which, were they but adverted to, could not fail to affect the mind with the most awful impressions, are suffered to operate unheeded, as if unseen.—We all know, for example, that, whenever inclination prompts to it, we can, by a very slight exertion of our vital faculties, raise our hand to our head. Nothing seems more simple, or more easy than this action ; yet when we attempt to form an idea of the way in which that incorporeal existence that we call *mind*, can operate upon matter, and thus put it in motion, we are perfectly lost in the incomprehensible immensity that surrounds us. When we try to investigate the properties of matter, we perceive that by patience and attention we can make a progress in attainments to which, according to our limited ideas, bounds can scarcely be assigned. The motions of the planets can be ascertained, their distances measured, and their periods assigned. The Mathematician can demonstrate, with the most decisive certainty, that no Fly can alight upon this globe which we inhabit, without communicating motion to it; and he can ascertain, if he chuses to do it, with the most accurate precision, what must be the exact amount of the motion thus produced. In this train of investigation the mind of a Newton can display its super-

rior powers, and soar to a height that exalts it far above the reach of others ; and yet, in trying to explain the cause of animal motion, the meanest reptile that crawls upon the ground is, humiliating as the thought may be, on a footing of perfect equality with a Newton : they can alike exert the powers conferred on them by the Almighty Creator, without being able to form the smallest idea of the way in which they are enabled to produce these effects. Man, however, can contemplate these effects if he will ; and Man, perhaps alone, of all the animals that exist on this globe, is permitted, by contemplating the wonders that these unfold, to form, if he pleases, some idea of his own nothingness, with a view to moderate his pride, and thus to exalt himself above the unconscious agents that surround him.

When the Anatomist considers how many muscles must be put in motion before any animal exertion can be affected : when he views them one by one, and tries to ascertain the precise degree to which each individual muscle must be constricted or relaxed, before the particular motion indicated can be affected, he finds himself lost in the labyrinth of calculations in which this involves him. When he further reflects that it is not his own body only that is endowed with the faculty of calling forth these incomprehensible energies, but that the most insignificant insect is vested with powers of a similar nature, he is still more confounded. A skilful naturalist has been able to perceive that in the body of the lowest Caterpillar, which, in the common opinion, is one of the most degraded existences on this globe, there

are upwards of *two thousand* muscles, all of which can be brought into action with as much facility, at the will of that insect, and perform their several offices with as much accuracy, promptitude, and precision, as the most perfect animal; and all this is done by that insect, with equal consciousness of the manner how, as the similar voluntary actions of Man himself are effected! * It would be no easy matter to make some men believe that the minute Ephemera Fly, whose life is but for the continuance of a few hours, is, in all its parts, for the functions it has to perform, as complete as the stately Elephant that treads the forests of India for a century. Little do they suppose that even in its appearance, under the greatest magnifying powers, it is as elegant in every respect, and as beautifully finished, as any of the larger animals! Unlike the paltry productions of Man, all the minute parts of these works of God appear in greater perfection, and afford to us a greater degree of admiration, the more minutely and more accurately they are examined. M. de Lisle saw, with a microscope, a very small insect, that, in one second of time advanced three inches, taking *five hundred and forty* steps; and many of the discoveries of Leuwenhoek were even still more wonderful than this. Thus we evidently discern that all the operations of God are full of beauty and perfection, and that he is as much to be adored in the insect Creation as in that of the Elephant or Lion.

If, from the contemplation of microscopic objects, we turn our attention to the stupendous system of

* Anderson's Recreations in Agriculture.

the Universe, and view the Heavens, what an astonishing field of admiration is again afforded us. This huge world that we tread is but a speck in the solar system ; and that system, immense as it is, is lost in the immensity of the space around, our Sun becoming a Star to Planets revolving round other Suns, as their Suns become Stars to us. Of these no fewer than *seventy-five millions* may be discovered in the expanse exposed to our investigation : but what are even all these when compared with the multitudes distributed through the boundless space of air ! The Universe must contain such numbers as exceed the utmost stretch of human imagination.—To obtain some faint conception of the wonderful extent of space, we may remark that stars of the first magnitude, or such as seem to us the largest, are near 19,000,000.000,000 miles from our Sun ; and that some of the smaller ones are many times that distance ! “ Great is our God, and great is his power ! O God, who is like unto thee ! ”

But to return to the animal part of the Creation, we find there innumerable proofs of our hypothesis : we see all the smaller creatures that serve us for food particularly fruitful, and increasing in a much greater proportion than others ; and in the bird kind it is extremely remarkable, that, lest they should fall short of a certain number of eggs, they are endowed with the power of laying others in the place of those that are taken away ; but when their number is complete, they invariably stop. Here is an operation, like many others that we shall have to observe, much beyond our comprehension. How the mere privation of part

should cause a fresh production, is not easy to understand. The organization of an offspring should, in this case, almost seem a voluntary act of the female ; but in what manner it is done, we are not only ignorant at present, but most probably shall ever remain so. Noxious animals multiply in general so slowly as never to become above the power of Man. But whenever we find a great increase of these, we generally discover something given by Providence to destroy and counterbalance them. Many species devour each other, and multitudes, that might otherwise, by their numbers, soon be of serious injury to mankind, afford food to other creatures. The insect tribes increase most rapidly. Some bring so many as two thousand young each : these would soon fill the air were they not destroyed by innumerable enemies.

• The number of young produced by every animal invariably bears a certain proportion to the duration of its life. The Elephant is said to live to the age of a hundred years or upwards : the female produces therefore but one young one, and this does not arrive at maturity till it is sixteen or eighteen years old. Nearly the same thing may be remarked in the Rhinoceros, and all the larger animals : but in most of the smaller ones, whose life is short, or whose increase is not so injurious to Man as the increase of these would be, we always find the number of young much greater : many of the Rat and other tribes produce several times in the year, and have from three or four to ten and upwards at a litter.—One species has never been found to increase so much as

to exclude the others ; and this singular harmony and just proportion has now been supported for several thousand years. “ One generation passeth away, and another succeedeth,” but all so equally as to balance the stock in all ages and in all countries.

We will for a moment recur, as it certainly belongs to our subject, and is a material illustration of the above remarks, to the first peopling of the world. In the beginning we find that the life of Man was lengthened to ten or twelve times its present term. After the flood it appears to have been the same. We have an account of one person who lived upwards of nine hundred years. Several of those born in the first century reached four hundred years ; none of the second, that we can discover, reached two hundred and forty ; and only one of the third, arrived at the age of two hundred years. The number of children had also been in full proportion to the age, and at this period cities, nations, and societies began to be formed. In the time of Moses, when the Earth was fully peopled, and from thence to the present, we find that seventy or eighty years was the extent of Man's life. “ The days of our age,” says David, “ are threescore years and ten ; and though Men be so strong that they come to fourscore years, yet is their strength then but labour and sorrow, so soon passeth it away, and we are gone *.” These exact adaptions to circumstances and situation can be accounted for in no other manner but by an immediate recurrence to God, their first cause.

* Psalm xc. v. 10.

In the vegetable Creation we observe the same regularity as in animals. There is scarcely a plant that is not rejected as food by some animals, and ardently desired by others. The Horse yields the Hemlock to the Goat ; and Monkshood, which kills the Goat, is said not to injure the Horse. Plants thus, which afford only the natural nourishment to some, are avoided by others as injurious. Poison is indeed, only a relative term. Several plants that are noxious to Man, are greedily devoured by some of the insect tribes. Thus does every creature enjoy its allotted portion ; and all this was contrived for the wisest of purposes. Had the Author of Nature formed all the plants equally grateful to all kinds of animals, it must necessarily have happened that some species would have had an enormous increase, whilst others must have perished for want of food. But as every species must of necessity leave certain plants to certain animals, we find that all are able to obtain their due share of nourishment.

All animals are calculated, in every respect, in the best possible manner, for the climates in which they have to live, and for their separate and peculiar modes of life. In the dreary Northern regions, the dark animals become white, to evade, by their resemblance to the prevailing colour of the country, the quick sight of their enemies. Their clothing also, becomes, during winter nearly double what it is in the Summer. In the torrid climates the Sheep loses his fleece, and is covered with hair. The Camel that traverses the burning sands of the deserts, is formed with soft spongy feet which the heat can-

not crack : it has a reservoir for water, which enables it to resist for many days the attacks of thirst, in a country where water is seldom to be had ; and it is contented with brouzing on such miserable food as is to be met with in its progress.—We might go on through innumerable instances, but these are reserved, with greater propriety, for the body of the work.

In vegetables again, we observe similar marks of superintendence. Some are Alpine, and can exist only on the high summits of the mountains ; some grow in marshes, others on the sandy plains, &c. and each of these is exactly adapted to its peculiar situation. The plants of the desert are nearly all succulent, and able to bear the privation of moisture for an astonishing length of time. Those that are found on the sea shore could not, in many instances be retained in their situation, did not their roots become so matted among the sand, or strike so deeply down as to render them perfectly immoveable by all the shocks they sustain either from the wind or water. It is also a remarkable circumstance, that Evergreens grow principally in the hottest climates, where they are chiefly found in the barren woods, thus affording a natural shelter to the various animals from the excessive heats to which they would otherwise be exposed.

If we attend to the contrivances of Nature in the preservation of those animals that would otherwise, in the colder climates, be deprived of food during the Winter, we have an additional source of admiration. Most of the insect-eating tribes either migrate to other countries, or become torpid during this ri-

gorous season. Insects themselves, unable to bear the extreme cold, generally lie hidden within their cases, from whence, at the approach of Spring, they burst, and fly forth. Some animals, as the Beaver, Squirrels, &c. that feed on such vegetables as can be preserved through the winter, do not sleep, but live in their retreats on those provisions which Nature has kindly taught them to store up in the Summer.

The preservation of the young of all animals is not less wonderful than this. However savage may be the natural disposition of the parents, they are remarkably affectionate to their offspring, and provide every thing necessary for them with the utmost tenderness. However powerful their enemies may be, the dam will stand forward in their defence, and frequently die rather than yield them up. In no more than about three species, of all that our books have mentioned, are we able to trace any want of affection in the female parents, to whose care the young generally devolve; and even these *may* have arisen from the misapprehensions of the writers, for Nature seems so uniform in this necessary and pleasing operation, that we cannot allow, without superabundant proof, even of exceptions. Quadrupeds, when they bring forth their young, have, secreted in receptacles provided for the purpose, a liquor which we call milk. With this, which is peculiarly easy of digestion, the young are nourished, till their stomachs are able to bear, and their teeth to chew, more solid food. Birds are destitute of this; their offspring therefore are able, as soon as hatched, to take into their stomachs such food as the parents collect for them.

The insect tribes are generally brought to life in a nidus that itself affords them nourishment. Thus does an uniformly beautiful contrivance in rearing and nourishing their tender young, pervade every species of the animal creation.

It is very remarkable that birds of the same species should always form the same kind of nest, of the same materials, laid in the same order, and made exactly of the same figure ; so that whenever a nest is seen, the bird that constructed it is immediately known. This circumstance is invariable in all birds and in all countries ; with those taken, when just hatched, from the nest, and brought up in a cage as well as with those that have all their lives been in a wild state.

All creatures know how to use their weapons of defence from mere instinct. The Calf and Lamb push with their heads long before the horns begin to shoot. A young Boar, in the same manner, knows the use of his tusks ; a Cat of its claws ; a Dog of his teeth ; a Horse of his hoofs ; and the Cock of his spurs. The Calf, however young, never attempts to bite its enemy ; the Foal does not push with its head, nor do the Dog or Cat make use of their heels.

From the animal we will once again turn to the vegetable kingdom, and examine into the contrivances of Nature there. If we look around us we shall find it a very difficult matter to discover an entirely barren spot. If, by any devastation such is made, it does not long remain unoccupied. Seeds are soon scattered over it ; the downy ones of the thistles, wafted by the winds, are the first to take root, and

after these come various other plants, till at length the whole space is filled. If a rock is left entirely bare by the receding of water, the minute crustaceous Lichens in a few years entirely cover it. These dying, turn to earth, and the imbricated Lichens now have a bed to strike their roots into. Those also die, and various species of Mosses succeed ; and when, after some time, a sufficiency of mould has been formed, the larger plants, and even shrubs, take root and live.

The quickness of vegetation in hot and cold climates is so astonishing as to be perfectly unaccountable, were we not able to refer it to a most exalted wisdom.

The following is the Calendar of a Siberian or Lapland Year.

- | | | |
|--------|-----|-------------------------|
| June | 23. | Snow melts. |
| July | 1. | Snow gone. |
| | 9. | Fields quite green. |
| | 17. | Plants at full growth. |
| | 25. | Plants in flower. |
| August | 2. | Fruits ripe. |
| | 10. | Plants shed their seed. |
| | 18. | Snow. |

From August 18, to June 23, Snow and Ice.

Thus it appears that from their first emerging from the ground, to the ripening of their seeds, the plants take but a month ; and Spring, Summer, and Autumn, are crowded into the short space of fifty-six days*.

* *Amoenitates Academicæ*, vol. iv.—Stillingfleet.

Again, in the torrid climates, where a scorching heat, destructive to general vegetation, prevails through the greater part of the year, we have a similar wonderful contrivance. In India, when the wet season commences, the rain falls in such abundance as to cover the whole surface of the Earth, as if with a sheet; so that in the course of a few hours, ponds of considerable depth are formed in every hollow place, in many of which there had not been, for several months past, the smallest appearance of moisture, not even so much as to afford nourishment to any of the plants. No sooner, however, does this rain begin to fall, than in the fields, which were, to appearance, as destitute of vegetation as the most frequented roads in our country are, vegetation commences; and in less than twenty-four hours the appearance of verdure can be distinctly perceived which ever way the eye is directed. But the most surprizing circumstance that occurs on this occasion is, that almost as soon as this verdure begins to appear, these newly formed ponds are found swarming with fish of such a size as to admit of being taken with nets, and to afford food for man: they are esteemed a great delicacy, and therefore universally known. This fact is related by Dr. Anderson, on the authority of a very respectable person of Bombay, and was not stated till the fullest enquiries had been made, and the most satisfactory evidence had appeared respecting it.*

Thus does the uniform voice of Nature exclaim

* And. Rec. in Ag. i. 270.

aloud, that “the merciful and gracious Lord hath so done his marvellous works, that they ought to be had in remembrance.” The whole material system throughout Heaven and Earth, presents a varied scene rich in use and beauty, in which nothing is lost, and in which, according to our former observations, the meanest and minutest creatures have their full designation and importance.—“Thus saith the Lord, thy Redeemer, and he that formed thee from the womb, I am the Lord, who maketh all things, who stretcheth forth the Heavens along, and spreadeth abroad the Earth by myself.”

Nothing of all these various existences was formed in vain: and that which is, however it may appear to our confined and imperfect comprehensions, is formed with supreme wisdom. It does not become us to pry too boldly into the designs of God. We, whose lives are but those of day, are unable to judge of the councils of that Providence, whose economy regards, not the objects merely of our senses, but the whole system of Nature. We cannot scrutinize the performances of God, nor can we possibly, with all our boasted wisdom and cunning, discover the grand connexions between incidents that lie widely separate in time, and which are only known to power infinitely surpassing ours. The Creator did not plan the order of Nature according to our confined principles of economy. The stupendous performance of the Deity is one throughout the Universe; and if Providence does not always calculate exactly according to our mode of reckoning, it would but become our inferior stations and judg-

ment, instead of industriously seeking out imperfections, to discover that these lie alone in our own erroneous powers of discrimination. It would be well, if, instead of looking to self-interest only, in the works of the Creation, we could, according to the remark of a late writer, consider these things in the same light as when different seamen are waiting at one port for fair winds, each to the country to which he is bound ; where we plainly see it impossible that all should be satisfied.

In Lapland, and some others of the Northern regions, Providence has kindly contrived that what would seem an evil, and is in some respects an inconvenience to the inhabitants, should become a means of their preservation. They are pestered with multitudes of Gnats which tease them so much by their stings, that to defend themselves they have recourse to smearing their faces, and keeping constantly a thick smoke in their cottages. These insects deposit their eggs in the water, and thus bring into the country immense numbers of aquatic birds, which feed on them ; and which constitute the principal support of the inhabitants ; and thus are these people unhappy in the very circumstances that procures them life. If it be asked, why it is necessary they should be unhappy in order to live ? we answer, that having developed one step, we find ourselves involved as deeply in obscurity, as those whose shortsightedness has not penetrated thus far ; but we are taught by this not to rest too securely on our own judgments (which are frequently built without a proper basis), when we are about to censure the per-

formances of superior intelligence ; and to suppose that as one step more than we suspected has been explained, so might the rest be rendered equally clear, had we but the capacity to comprehend them.

In our own country birds are, almost invariably, considered as injurious to the industry of the farmer ; they are said to devour his crops, and to destroy at least one half of the fruits of his labour. Little does the farmer suspect, that, were he deprived of these so much detested creatures, but a very small portion of the present produce of the Earth could be brought to perfection. Their manure alone is of very considerable value : but all the slender-billed birds, the Lark, Black-bird, Thrush, Red-breast, Goldfinch, Hedge-sparrow, and many others, live almost entirely on insects ; and are therefore peculiarly beneficial to him. Even those that devour the grain destroy infinitely more of the noxious insects, than will compensate for any damage they commit.—It has been calculated, with some accuracy, that a single pair of the common Sparrows, while their young are in the nest, destroy on an average above *three thousand* Caterpillars every week. Does the farmer consider this, and yet issue an unlimited edict for their destruction ? Mankind in general want a proper degree of confidence in that Being, who cannot form any thing in vain : trusting only in their own judgment, which, every moment of their lives they find in error, they impiously censure, only because they cannot understand.

From all the preceding observations, it appears that Natural History affords us a much more exten-

sive moral than has generally been supposed. And the blind curiosity, which formerly was the principal motive in making collections and studying the science, is now giving way to more noble and more estimable ideas ; and there are yet, “ in the instructive book of Nature, many leaves, which hitherto no mortal has perused *.”

It is evident that the general tendency of the study is to lead us from the admiration of the works, to the contemplation of their Author ; to teach us to look, through Nature, up to Nature's God. It is a study which terminates in the conviction, the knowledge and the adoration of that Being, to whom we owe every thing that we enjoy.

When Mr. Mungo Park, in the wilds of Africa, had been plundered by a banditti, nearly of all he possessed, we find of what material use his contemplations were to him, on a subject, that to many persons would appear extremely insignificant. “ Whichever way I turned,” says he, “ I saw myself in the midst of a vast wilderness, in the depth of the rainy season ; naked and alone : surrounded by savage animals, and by Men still more savage. I was five hundred miles from any European settlement. All these circumstances crowded at once on my recollection ; and I confess that my spirits began to fail me. I considered my fate as certain, and that I had no alternative but to lie down and perish. The influence of religion, however, aided and supported me. I reflected that no human

* Pontoppidan, Pref. p. 1.

prudence or foresight could possibly have averted my present sufferings. I was indeed a stranger in a strange land, yet I was still under the protecting eye of that Providence, who has condescended to call himself the Stranger's Friend. At this moment, painful as my reflections were, the extraordinary beauty of a small Moss, in fructification, irresistibly caught my eye. I mention this to shew from what trifling circumstances the mind will sometimes derive consolation; for though the whole plant was not larger than the top of one of my fingers, I could not contemplate the delicate conformation of its roots, leaves, and capsula, without admiration. Can that Being (thought I) who planted, watered, and brought to perfection, in this obscure part of the world, a thing which appears of so small importance, look with unconcern upon the situation and sufferings of creatures formed after his own image?—Surely not! Reflections like these would not allow me to despair. I started up, and, disregarding both hunger and fatigue, travelled forwards, assured that relief was at hand; and I was not disappointed *."

It is impossible to consider properly all these important objects, and then unconcernedly to ask, "*of what use is this Science?*"

Natural History is a study that seems well calculated to employ the *female* mind: and it has this advantage over most other pursuits, that the more earnestly it is attended to, the more interesting it becomes. It is a study also that meliorates the heart,

* Park's Travels, 243.

at the same time that it captivates the understanding. Every branch of it teems with delight and instruction. Even Botany, which has been ignorantly stigmatized as a study merely of names, is, when entered upon with spirit, a most instructive and enticing pursuit :

Not a tree,
A plant, a leaf, a blossom, but contains
A folio volume. We may read, and read,
And read again, and still find something new ;
Something to please, and something to instruct
E'en in the noisome weed.

It would be no inconsiderable improvement to the rising generation, if Natural History could in some measure be introduced to their attention, in preference to novels and the usual pernicious books of entertainment. If they could have recourse to a rational source of amusement, rather than corrupt their hearts and bewilder their imaginations with these, the common trash of *Circulating Libraries* :—Early impressions frequently afford such a stamp to the future character, as to render the proper introduction of them a matter of the utmost importance.—That thoughtless cruelty which we now so frequently observe toward the inferior orders of created beings, would scarcely be known, could we but teach mankind that the same God “ who gives its lustre to an insect’s wing” ordains with it a right to life and happiness as well as ourselves ; and that wantonly to deprive it of these is an offence against His works who formed nothing in vain.—An attention to Nature

from childhood would also contribute greatly to the happiness of mankind in general, and to that of females in particular, by enabling them to overcome all those fears and vulgar prejudices which have commonly attached to some of the smaller quadrupeds, and to the reptile and insect tribes. They would then have no greater repugnance towards handling a Lizard, a Beetle, or a Spider, than they now have towards that of a Bird, or a Flower.

It is necessary, however, to inform them, that they must not be contented merely with reading : the principal use of this is to direct them to contemplations on the objects themselves, and to induce a taste for more minute investigation ; but it is from this investigation only that they will be enabled to reap the advantages of the science, and such advantages as books alone do not always bestow,

These are thy glorious works, Parent of Good,
Almighty ! Thine this universal frame,
Thus wondrous fair ; thyself how wondrous then !
Unspeakable, who sitt'st above these Heav'ns,
To us invisible, or dimly seen
In these thy lowest works ; yet these declare
Thy goodness beyond thought, and power divine !

MAMMIFEROUS ANIMALS.

THE Empire of Nature has, by the general assent of mankind, been divided into three essential kingdoms; the first consisting of minerals, the second of vegetables, and the third of animals.

The *Mineral Kingdom*, which consists of substances destitute of the organs necessary to life or motion, occupies in rude masses the interior parts of the earth. It is formed from the accidental aggregation of particles, which, under certain circumstances, take a constant and regular figure, but which are more frequently found without any definite conformation.—The *Vegetable Kingdom* clothes the surface of the earth with verdure. It consists of organized bodies, destitute of the power of locomotion, or changing place at will. These imbibe nutriment through their roots, respire air by their leaves, and continue their various kinds by means of seed dispersed within proper limits.—The *Animal Kingdom* adorns the external parts of the earth with sentient beings. These have voluntary motion, respire air, are impelled to action by the cravings of want, by love, and by pain. They keep within proper bounds, by preying on them, the numbers both of animals and vegetables.

The latter of these kingdoms was subdivided by Linnæus into six classes, *viz.* Mammiferous Animals, which he called Mammalia, Birds, Amphibious Animals, Fishes, Insects, and Worms.

The class of animals denominated MAMMALIA comprehends all those that nourish their young by means of lactiferous glands or teats, and that have, flowing in their veins, a warm and red blood. It includes the *whales*, an order that, from external shape and habits of life, has usually been arranged among the fishes. It is true that these animals inhabit exclusively the water, an element in which none of the quadrupeds can long subsist, and are furnished like the fish with fins, still, however, in every essential characteristic, they exhibit an alliance to the quadrupeds. They have warm blood, produce their young alive, and nourish them with milk furnished from teats. In their internal structure they are likewise in a great measure allied to the quadrupeds, having similar lungs, and two auricles, and two ventricles to the heart.

The bodies of nearly all the mammiferous animals are covered with *hair*, a soft and warm clothing liable to little injury, and bestowed in quantity proportioned to the necessities of the animals, and the climates which they inhabit. In most of the aquatic quadrupeds this covering, from its too free absorption of moisture, is wanting.

The *head* in all the higher orders of animals, is the seat of the principal organs of sense, the mouth, the nose, the eyes, and the ears. It is through the mouth

that they receive their nourishment. This contains the *teeth*, which in most of the Mammalia are used not only for the mastication of their food, but as weapons of offence. They are inserted into two moveable bones called the upper and under jaw. The front teeth whose office it is to cut, are wedge-shaped, and so placed that in action their sharp edges are brought into contact, and thus divide the aliment.—Next to these, on each side, are situated the canine-teeth or tusks. They are longer than the other teeth, conical and pointed, but the points do not directly meet on closing the mouth. Their use is to tear the food.—The teeth in the back of the jaw, between which the food is masticated, are called grinders. In animals that live on vegetables, these are flattened at the top, but in carnivorous animals their upper surfaces are furnished with sharp conically pointed protuberances. From the numbers, form, and disposition of the teeth, the various genera of quadrupeds have been arranged.

The *nose* is a cartilaginous body pierced with two holes called nostrils. In some animals this is prominent, in others flat, compressed, turned upwards, or bent downwards. In beasts of prey it is often either longer than the lips, or of equal length with them. In a few animals it is elongated into a moveable trunk or proboscis, and in one tribe, the Rhinoceros, it is armed with an horn.

The *eyes* of quadrupeds are for the most part defended by moveable eye-lids, whose outer margins are furnished with hairs, called eye-lashes. The opening of the pupil is in general circular, but in some animals, as Cats and Hares, it is contracted into a

perpendicular line, and in Oxen, Horses, and a few others, it forms a transverse bar. The opening contracts during the day, that the very sensible retina may not be irritated by the rays of light ; and is expanded in the dark to allow as many rays as possible to pass.

The *ears* are openings generally accompanied by a cartilage which defends and covers them, called the external ears. In aquatic animals the latter are wanting, the sounds in them being transmitted merely through holes, which have the name of *auditory holes*. The most defenceless animals are very delicate in their sense of hearing, as are likewise most of the beasts of prey. In wild animals the ears are erect and somewhat funnel shaped, capable of having their opening turned towards the quarter from whence the sounds proceed, but in those that are tame or domestic the ears are, for the most part, long and pendulous.

The head is joined to the body by the neck ; and all those animals that often extend their arms or anterior feet forward, either to seize things, as the Monkies, or to fly, as the Bats, have, annexed to the upper part of the thorax, *clavicles* or collar bones. The clavicle of the Mole is particularly remarkable on account of its thickness, which exceeds its length. The collar-bones are wanting in those animals that use their anterior extremities for progressive motion only ; and there are rudiments of them in such as hold a middle station betwixt these two different orders.

Most of the Mammiferous Animals walk on four

feet, which are usually divided at the extremities into toes or fingers. The extremities, however, of some, as the Horse, end in a single corneous substance, called a hoof. The toes of a few of the quadrupeds end in broad flat nails, and of most of the others in pointed claws. Sometimes the toes are connected together by a membrane : this is the case in animals that spend part of their lives in the water. Sometimes, as in the Bats, the digitations of the anterior feet are greatly elongated, having their intervening space filled by a membrane which extends round the hinder legs and the tail, and by means of which they are enabled to rise into the air.—The *action of walking* in quadrupeds is deserving of particular notice. The animal first slightly bends the articulations of the hind legs, and then extends them in order to carry forward the body. The breast being thrown forward by this movement, the fore legs become inclined backward ; and the animal would fall, did it not instantly throw them forward in order to support itself. It then draws up the trunk upon the fore legs fixed in this position, and the hind legs are again brought into action. But it must be observed, that these movements are not performed at the same moment, by the two legs of each pair in the action of walking ; for in that case, the animal would necessarily be completely suspended for a moment over the ground ; and its motion would then be no longer a *walk*, but a succession of leaps, particularly denominated a *full gallop*. Each step is executed by two legs only ; one belonging to the fore pair, and the other to the hinder pair ; but some-

times they are those of the same side, and sometimes those of the opposite sides. The latter is that kind of motion which in horses is called a *pace*. The right fore leg is advanced so as to sustain the body, which is thrown upon it by the extention of the left hind foot ; and at the same time the latter bends in order to its being moved forward. While they are off the ground, the right hind foot begins to extend itself, and the moment they touch it the left fore foot moves forward to support the impulse of the right foot, which likewise moves forward. The body is thus supported alternately by two legs placed in a diagonal manner. When the right foot moves, in order to sustain the body, pushed forward by the right hind foot, the motion is then called an *amble*. The body being alternately supported by two legs of the same side, is obliged to balance itself to the right and left, in order to avoid falling ; and it is this balancing movement which renders the gait of a horse so soft and agreeable to women and persons in a weak state of body as it is generally found.—In the animals that have their fore feet longer than the hinder ones, and have their strength chiefly in the anterior part of the body, the principal impulse is given by extending the fore foot. The hind foot then rises to follow it, and it is not until the moment that the latter extends itself in its turn, that the fore foot is raised. This is the manner in which the Giraffe is said to move. But when the fore legs are greatly disproportionate to the others, and particularly when the posterior extremities are feeble and not closely articulated, as in the Sloths, the animal is obliged to

drag itself onward, by first extending the anterior legs, and then bending them so as to draw the body after them ; the hind legs affording but very little assistance by their impulsion. It is this circumstance which renders the progression of the Sloths so laborious.—Those animals which have their fore legs very short in proportion to their hinder ones, would be incapable of sufficiently supporting their bodies, and must fall down forward on each impulse of the latter, had they not the precaution to make a prancing movement ; that is, to raise the anterior extremities entirely off the ground, previously to their being impelled onward by means of the hind feet. Accordingly such animals cannot, in propriety of language, be said to walk ; they only move forward by leaps. This is the case with the Hares, the Rats, and particularly with the Jerboas and Kangaroos. Indeed these animals cannot be said to walk at all, except in the action of ascending. When they attempt to walk slowly on level ground, they are obliged to move themselves by the fore feet, and merely to drag after them the hind pair. This may be observed in Rabbits.—When the hind feet are very much separated, their impulse becomes more lateral. It thence results that, at each step, the trunk is alternately impelled side ways, and that the line of motion becomes crooked. This may be remarked in the swimming animals, whose manner of life requires that there should be a considerable space between the hind legs ; such as the Otters, and the Beavers.—Man, and a certain number of other animals are capable of seizing objects, by surrounding and

grasping them with their fingers. For this purpose the fingers are separate, free, flexible, and of a certain length. Man has such fingers on his hands only; but Apes and some other kinds of animals have them both on their hands and feet.—Only Man, Apes, and Lemurs have the thumb separate, and capable of being opposed to the fingers, so as to form a kind of forceps. These are therefore the only animals that can hold moveable objects in a single hand.—The others, as Squirrels, Rats, Opossums, &c. that have the fingers sufficiently small and flexible to enable them to take up objects, are obliged to hold them in both hands.—Others, which have the toes shorter, and which besides are under the necessity of resting on the fore feet, as Dogs, and Cats, can only hold substances by fixing them upon the ground with their paws.—Lastly, those that have the toes united and drawn together under the skin, or enveloped in corneous hoofs, are incapable of exercising any prehensile power.

In order to lead the reader to some general idea of the internal structure of the bodies of animals I shall begin with the *circulation*. That warm and red fluid called the blood flows from the heart, its common reservoir, through the frame, by a series of vessels called arteries, and returns by another series denominated veins. When this alternate motion ceases the consequence is immediate death.

The *lungs* of quadrupeds consist of two lobes, and are placed within the thorax or chest. Into these the atmospheric air is inspired from the mouth; and in

them the vital air and the matter of heat, are separated, the former containing the only principle proper for the maintenance of life, and the latter being necessary towards keeping up the fluidity of the blood. The mephitic air, which remains after the separation, is immediately expired. This act of drawing in the atmospheric air, separating the vital air, and matter of heat, and ejecting the mephitic air, is termed respiration.

In *digestion* it is that the juices calculated to nourish and support the body become separated from the other less useful parts of the food. Reduced to a pulp by means of the teeth and saliva, this is thrown into a canal which, below the thorax, terminates in a large bag or reservoir, called the stomach. Here the aliment, penetrated and further dissolved by new juices, undergoes a trituration from the action of the stomach; and the nutritive juices, which, on their union, are denominated chyle, are now expressed. These are taken up by little vessels called lacteals, and become converted into new blood and flesh. The alimentary canal again contracts on leaving the stomach, and twisting into a great variety of folds, acquires the name of intestines. The residue of what is not converted into chyle traverses these numerous canals, and from them is expelled the body.

The bodies of all Mammiferous Animals are supported by a frame of bones, called a *skeleton*. To these bones are attached the *muscles* or flesh, assemblages of fibres held together by membranes, and terminating in a kind of cords called tendons. These muscles, when excited, produce motion in the dis-

rent parts of the body ; and it is their action which gives to all animals the power of changing their place, and performing the various movements necessary to their wants.

The sensation of animals arises from an irritation taking place on the ends of certain cords called *nerves*. These are either prolonged from the spinal marrow, or they are united in pairs in the brain.

According to the destination of Nature, the Mammiferous Animals are calculated, when full grown, to subsist upon food of various kinds ; some to live wholly upon flesh, others upon grain, herbs, or fruits of different kinds ; but in their infant state, milk is the food appropriated to the whole. And that this food may never fail to them, it is universally ordained, that the young is no sooner born than milk flows in abundance into the members provided in the mother for the secretion of that nutritious fluid. The infant animal searches for the teat almost as soon as it comes into life, and knows perfectly at the first how by suction to extract the fluid that preserves its existence.

In the general economy of Nature it is one great business of this class of animals to keep up a constant equilibrium in the number of animated beings of the world. To man they are immediately useful in various ways ; they afford him their bodies for food, and their fleece to shelter him from cold. Some of them partake with him the dangers of combat with his enemies ; and others pursue and obtain for him

the animals necessary to his subsistence. Many indeed are injurious to him, but most of them, in some shape or other, prove their services and importance. —The number of Mammiferous Animals that have been examined and arranged is about nine hundred, but this must bear a very insignificant proportion to the multitudes that crowd the surface of the globe.

THE APE TRIBE *.

The animals belonging to this tribe bear a very considerable resemblance, both in external and internal structure, to the human race: and in their habits and instincts we remark a much nearer approach to us, than in those of any other division of animated nature. They are endowed with memories exceedingly retentive; they are also suspicious, agile, fond of imitation, and full of gesticulations and grimace; when injured or offended they adopt threatening gestures, and chatter with their teeth; but when any thing pleases them they seem to laugh.

* This tribe commences the first of the Linnæan orders of Quadrupeds, the PRIMATES. These have four parallel front, or canine teeth in each jaw; except in some species of Bats, which have either two only or none. They have one canine-tooth on each side in both jaws. The females have two pectoral mammae or breasts. The two fore-feet resemble hands, having fingers, for the most part, furnished with flattened oval nails. Their food is chiefly vegetable. The principal animals of this order are Man, the Ape, and Lemur tribe, &c. &c. the Bats.

The dispositions of many of the species are so wild and unmanageable, that it is with difficulty they can be brought into a state of domestication. Others are indeed of a milder nature, and exhibit some degree of attachment to those who are kind to them, but nearly the whole tribe are indowed with mischievous propensities. They are also in general filthy, obscene, and thievish *.

All the species, except one, (the Barbary Ape,) are confined to the climates of the Torrid Zone, where for the most part they live on vegetable food ; and although our books on Natural History enumerate about *sixty* species, we are given to understand that these are but a small portion of the numbers that have even been seen about the forests of hot climates. Bosman says he saw an immense number of different kinds on the coast of Africa †, and Condamine tells us, that it would occupy a volume to describe accurately only the specific characters of those to be found along the banks of the river Amazons. The forests of Africa, India, China, Japan, and South America swarm with them ‡.

Several of this tribe have pouches in their cheeks, in which they macerate their food for some time before they chew and swallow it. They are fond of hunting after Fleas, both in their own fur, and in that of their companions. Few animals have a more delicate sense of feeling, or are agitated by more violent passions. Most of them are gregarious, associating in vast companies, and leaping with great

* Kerr 1. 54.—† Bosman, 242.—‡ Buffon's Quad.

agility among the branches of the trees ; but the different species always keep apart, and in separate districts, never intermixing with each other*.

This extensive genus is distinguished from all others, by the animals having in each jaw four front-teeth, placed near together ; the canine-teeth longer than the rest, and distant from them ; and the grinders obtuse.

The tribe is usually divided into three sections, namely, Apes, Baboons, and Monkies.

Apes are destitute of tails, they walk upright, their posteriors are fleshy, their legs are furnished with calves, and their hands and feet nearly resemble those of men. In their manners they are, for the most part, mild and gentle, and they imitate human actions more readily than any of the others.—Baboons have short tails ; they generally walk on all fours, seldom going upright, except when constrained to it in a state of servitude. Some of them are as tall as Men, have long faces, sunk eyes, and are otherwise extremely disgusting. In their dispositions they are usually very sullen and ferocious.—Monkies have tails in general longer than their bodies. One division of these, consisting of about ten species, with *prehensile* tails, that is, such as can be twisted round any object, so as to answer the purpose of an additional hand to the animals, is almost entirely confined to America.—The Monkies are altogether the most active and lively of the whole tribe ; they are greatly addicted to thieving, and scarcely,

* Kerr 1. 54.

ever imitate human actions but with a mischievous intention.—Neither the Lion, the Tiger, nor any of the feline race, are the most formidable enemies to the Monkies: their dominion in the forests is not disputed by any of these ferocious animals, from whom they easily escape by their nimbleness in running up the trees. The Serpent tribes alone, which reside with them in the trees, are endowed with the art of surprizing them during their repose; and perpetual war is sustained between these two races*. Conscious, however, of their own activity and safety when awake, Labat says, he has seen in Africa “ Monkies playing their gambols on the very branches where Snakes were reposing; and jumping over them backwards and forwards, although the Serpents of this country are naturally vindictive, and always ready to bite any thing that disturbs them †.”

In many parts of India the animals of the Ape tribe are made objects of worship by the natives, and temples of the greatest magnificence are erected in honor of them ‡. Their numbers are almost infinite. They frequently come in troops into the cities, and they enter the houses at all times with perfect freedom; in Calicut, however, the inhabitants keep them in a great measure out of their dwellings, but to effect this they are compelled to have all their windows latticed. In Amadabad, the capital of Guzarat, there are three hospitals for

* Buffon's *Quad.* viii. 152.—† *Relat. de l'Afrique Occident.* p. 517.

‡ *Penn. Quad.* i. 172.

animals, where lame and sick Monkeys and even those which (without being diseased) chuse to dwell there, are fed and cherished. Twice every week the Monkeys of the neighbourhood assemble spontaneously in the streets of the city. They then mount upon the houses, each of which has a small terrace or a flat roof, where they lie during the great heats. On these two days the inhabitants always carefully deposit on the terraces rice, millet, or fruit; for whenever, by any accident, they are prevented from doing it, the disappointed animals become so furious, that they break the tiles, and commit various other outrages *.—When the Portuguese plundered the island of Ceylon, they found in one of the temples dedicated to these animals, a small golden casket, containing the tooth of an Ape. This relic the natives held in such superstitious veneration, that they offered no less than 700,000 ducats to redeem it. The Viceroy, however, in order to discourage their superstition, directed it to be burnt †. About three years afterwards, a fellow who accompanied the Portuguese Ambassador, having got a similar tooth, pretended that he had recovered the old one, which so rejoiced the Priests, that we are informed they purchased it for a sum of upwards of 10,000 pounds sterling ‡.

* Buffon's Quod.—† Linschotten, Voy. p. 33.—‡ Hamilton, 1. 347.

THE ORAN OTAN*.

The Oran Otan approaches in external appearance much more nearly to the human form than any others of the Ape tribe: and it has, from this circumstance, even sometimes obtained the appellation of "Man of the Woods."

The specimens of the Oran Otan, which have been brought into Europe, have seldom exceeded three feet in height; but when full grown it is said that their height is at least six feet, and that their strength is then so great, that one of them is able with ease to overpower the most muscular Man. Their colour is generally a kind of dusky brown; their feet are bare, and their ears, hands, and feet, nearly resemble those of mankind; and indeed their whole appearance is such as to exhibit a most striking approximation to the human figure. They have, however, a flatter nose, more oblique forehead, and the chin without any elevation at the base. The eyes are likewise too near each other, and the distance betwixt the nose and mouth much too great.

When Dr. Tyson's Oran Otan, which I shall soon have occasion further to notice, was examined anatomically, a surprizing similitude was also seen to prevail in its internal conformation. It differed,

* Oran Otan in the Malayan language signifies Wild Man, or rather, a Being of intelligence.

SYNONYMS.—*Simia Satyrus*. *Simia Troglodytes*. *Linn.*—Orange-Outang. *Var.*—Great Ape. *Penn.*—Man of the Woods. *Edwards.*—Drill. *Charlton.*—Smitten. *Bosman.*—Barris. *Purchas.*—Chimpanze. *Scotin.*—Pongo in some parts of the East Indies.—Joeko, in Congo. *Buffon.*—*Shaw's Gen. Zool.* pl. 1, 2, 3, 4.

however, from Man in the number of ribs, having thirteen, whereas in Man there are but twelve. The vertebræ of the neck were also shorter, the bones of the pelvis narrower; the orbits of the eyes were deeper, the kidneys rounder, the urinary and gall bladders were longer and smaller, and the ureters of a different figure*. Such were the principal distinctions between the internal parts of this animal and those of Man; in almost every thing else they were exactly the same, and discovered an astonishing congruity. Indeed many parts were so much alike in conformation that it might have excited wonder how they were productive of such few advantages. The tongue, and all the organs of the voice, were the same, and yet the animal was dumb; the brain was formed in the same manner with that of Man, and yet the creature wanted reason: an evident proof, as the Comte de Buffon finely observes, that no disposition of matter will give mind; and that the body, how nicely soever formed, is formed in vain, when there is not infused a soul to direct its operations.

These animals are found in the most desert places in the interior of Africa, and the island of Borneo. They feed on fruits, and, when they happen to approach the shore, will eat shell-fish or crabs. Their resting places are in trees, where they are secured from the attacks of all predacious creatures except Serpents†. We are assured by Andrew Battell, a Portuguese traveller, who resided in Angola near eighteen years, that these animals were

* Anatomy of a Pigmy.—† Penn. Quad. 1. 167.

very common in the woods of that country, where they sometimes attained a gigantic stature. Their bodies were covered, but not very thickly, with a dun coloured hair; and their legs were without calves. They always walked upright, and generally, when on the ground, carried their hands clasped on the hinder part of their neck. They slept in the trees, amongst which they built shelters from the rain. Their food was fruit and nuts, and in no instance were they known to be carnivorous. The inhabitants of the country, when they travel in the woods, make fires around the place where they sleep, to keep at a distance the various species of voracious animals; to these fires the Oran Otans would assemble in the mornings, sitting by them till the last of the embers were expired*.—Among the woods on the banks of the river Gambia in Africa we are told that the Oran Otans collect in herds of three or four thousand, marching in a rank, the larger ones acting as leaders. In these troops they are excessively impudent and mischievous. Jobson, who gives the account, says, that whenever his party, in sailing along the river, passed their stations, they mounted the trees and gazed upon the men; sometimes they would shake the trees with their hands, which they did with vast force, at the same time chattering and making a loud noise. At night when the party were at anchor, the animals often took their stations on the rocks and heights above. When the men were on shore and met any of them,

* Purchas. ii. 982. Battel was in Angola in the year 1589.

the great ones generally came forward and seemed to grin in their faces, but they always fled when an attack was made. One of them was killed from the boat with a gun, but before the boat could be got ashore the others had carried it off. Their habitations were found in some of the woods, composed of plants and the branches of trees, so thickly interwoven as to protect them from the heat of the Sun. The ground was beaten perfectly smooth, few plants growing in their paths or dwellings*.—We are told by another writer, that during the breeding season the males relinquish these to the females and their young†.—The Oran Otans are not lively and frolicsome, but in all their actions they are much more deliberate and sedate than the rest of their tribe. If a Negro is unfortunate enough to wander in the woods, and be discovered by them, they generally attack and kill him. They are able even to drive off the Elephant; with a piece of wood in their hands, or only with their fists, they will so tease the huge beast, that in the end he is induced to retire‡. They have been known to throw stones at those who have offended them. Bosman informs us, that behind the English fort at Wimba on the coast of Guinea, several of these Apes fell upon two of the company's slaves, overpowered them, and were about to poke out their eyes with some sticks, when a party of Negroes happened to come up at a fortunate moment to their rescue||. It is said, that they

* Jobson's Voyage to the River Gambia Purchas. ii. 1575.

† Matthews's Voyage to Sierra Leona.—‡ Purchas. ii. 282.

§ Bosman, 242.

sometimes steal the Negresses, and carry them off into the woods *. A Negro boy was carried off by an Oran Otan, and lived with them upwards of a year; on his return he described many of them as being as tall and more bulky than a Man, and he declared that they did not attempt to injure him in any respect†. The young are said to hang on the belly of the dam, with their hands fast clasped about her; and whenever the females are killed these will always suffer themselves to be taken ‡.

This is all the information that I have been able to collect respecting the Oran Otan in its wild state: the following are accounts of it therefore in a state of captivity and domestication.

The manners of the Oran Otan, when in confinement, are gentle, and, for the most part, harmless, perfectly devoid of that disgusting ferocity so conspicuous in some of the larger Baboons and Monkeys. It is a mild and docile animal, and may be taught to perform with dexterity a variety of entertaining actions in domestic life.

Dr. Tyson, who, about a century ago, gave a very exact description of a young Oran Otan then exhibited in London, assures us, that, in many of its actions, it seemed to display a very high degree of sagacity, and in its disposition was exceedingly mild. The most gentle creature, says he, that could be. Those that he knew on board the vessel that brought him over he would embrace with the greatest tenderness; and, although there were Monkeys

* Penn. Quad. i. 167.—† Buff. Quad. viii. 83.—‡ Purlas. ii. 982.

aboard, yet it was observed, he never would associate with any of them, and, as if nothing akin to them, would always avoid their company. He used sometimes to wear cloths, and at length became very fond of them. He often would put part of them on without help, and carry the remainder in his hands to some one of the ship's company for his assistance. He would lie in bed, place his head on a pillow, and pull up the bed-cloths to keep himself warm, exactly as a man *.

M. Vosmaer's account of the manners of an Oran Otan, brought into Holland in the year 1776, and lodged in the menagerie of the Prince of Orange, is exceedingly curious.

"This animal," says M. Vosmaer, "was a female: its height was about two Rhenish feet and a half. It shewed no symptoms of fierceness or malignity, and was even of a somewhat melancholy appearance. It was fond of being in company, and shewed a preference to those who took daily care of it, of which it seemed to be sensible. Often when they retired, it would throw itself on the ground, as if in despair, uttering lamentable cries, and tearing in pieces the linen within its reach. Its keeper, having sometimes been accustomed to sit near it on the ground, it frequently took the hay of its bed, and laid it by its side, and seemed by every demonstration, to invite him to be seated near. Its usual manner of walking was on all fours, like other

* Anatomy of a Pigmy, p. 8.

Apes * ; but it could also walk erect. One morning it got unchained, and we beheld it with wonderful agility ascend the beams and rafters of the building ; it was not without some pains that it was retaken, and we then remarked an extraordinary muscular power in the animal ; the assistance of four men being necessary in order to hold it in such a manner as to be properly secured. During its state of liberty it had, amongst other things, taken the cork from a bottle of Malaga wine, which it drank to the last drop, and had set the bottle in its place again. It ate almost every thing that was given to it ; but its chief food was bread, roots, and especially carrots ; all sorts of fruits, especially strawberries : and it appeared extremely fond of aromatic plants, and of the leaves and root of parsley. It also ate meat, both boiled and roasted, as well as fish. It was not observed to hunt for insects, like other Monkies ; was fond of eggs, which it broke with its teeth, and sucked completely ; but fish and roasted meat seemed its favourite food. It had been taught to eat with a spoon and a fork. When presented with strawberries on a plate, it was extremely pleasant to see the animal take them up, one by one, with a fork, and put them into its mouth, holding, at the same time, the plate in the other hand. Its common drink was water, but it also

* There is no doubt whatever, from the horizontal position of the pelvis, and some other circumstances, that this is the natural mode of walking of the whole tribe ; and that their going entirely upright is only the effect of education.

very willingly drank all sorts of wine, and particularly Malaga. After drinking, it wiped its lips; and after eating, if presented with a tooth-pick, would use it in a proper manner. I was assured, (continues this writer,) that on ship-board it ran freely about the vessel, played with the sailors, and would go, like them, into the kitchen for its mess. At the approach of night it lay down to sleep, and prepared its bed, by shaking well the hay, on which it slept, and putting it in proper order; and, lastly, covering itself warm with the coverlet. One day, seeing the padlock of its chain opened with a key, and shut again, it seized a little bit of stick, and put it into the key hole, turning it about in all directions, endeavouring to see whether the padlock would open or not. This animal lived seven months in Holland. On its first arrival it had but very little hair, except on its back and arms: but on the approach of winter it became extremely well-covered; the hair on the back being three inches in length. The whole animal then appeared of a chesnut colour; the skin of the face, &c. was of a mouse colour, but about the eyes and round the mouth of a dull flesh colour." It came from the island of Borneo, and, after its death, was deposited in the museum of the Prince of Orange *.

The Oran Otan, which the Comte de Buffon saw, walked always on two feet, even when carrying things of considerable weight. His air was melan-

* Shaw's Gen. Zool. i. 7.

choly, his gait grave, his movements measured, his disposition gentle, and very different from that of other apes. He would present his hand to conduct the people who came to visit him, and walk as gravely along with them as if he had formed a part of the company. He frequently used to sit with persons at dinner, when he would unfold his towel, wipe his lips, use a spoon or a fork to carry his victuals to his mouth, pour his liquor into a glass, and make it touch that of a person who drank along with him. If he was invited to take tea, he brought a cup and saucer, placed them on the table, put in sugar, poured out the tea, and allowed it to cool before he drank it. All these actions he performed without any other instigation than the signs or verbal orders of his master, and often even of his own accord *.

Hamilton saw an Oran Otan in Java. He says, that its habit was grave and melancholy; that it would light a fire, and blow it with its mouth; and that it would broil a fish to eat with its boiled rice, imitative of the custom of the human race †.

One of these animals that Le Comte saw in the Streights of Molucca is described as having manners very similar to those already mentioned. It walked upright, and used its hands and arms like a man; and indeed its actions were in general so nearly allied to those of mankind, and its passions so expressive and lively, that a dumb person could scarcely render himself better understood. Its joy or anger it sig-

* Buff. Quad. viii. 86.--† Hamilton, ii. 121.

nified by stamping with its foot on the ground. It had been taught to dance ; and would at times cry like a child. While on board the vessel it frequently ran up the rigging, and played as many antics aloft, to divert the company, as a rope-dancer. It could leap with surprising agility and security from one rope to another, though fifteen or twenty feet asunder *.

We are told by Pyrard, that these animals are found in Sierra Leona, where they are strong and well formed, and so industrious, that, when properly trained and fed, they work like servants : That when ordered, they will pound any substances in a mortar ; and that they are frequently sent to fetch water from the rivers in small pitchers, which they carry full on their heads ; but, when they arrive at the door of the dwelling, if these are not soon taken off they suffer them to fall, and when they perceive the pitcher overturned and broken they utter aloud their lamentations †. Barbot says also, that they are frequently rendered of use in the settlements on the coast of Guinea, by being taught to turn the spit, and watch the roasting of meat, which they perform with considerable dexterity and address ‡.

M. de la Brosse, who purchased from a Negro two Oran Otans, remarks that they would sit at table like men, and eat there every kind of food without distinction. That they would use a knife,

* History of China.

viii. 92.

† Voy. de Fran. Pyrard, in Buff. Quad.

‡ Barbot, in Churchill's Coll. v. 191.

fork, or spoon, to cut or lay hold of what was put on their plate. That they drank wine and other liquors. At table, when they wanted any thing, they easily made themselves understood to the cabin-boy ; and when the boy refused to answer their demands, they sometimes became enraged, seized him by the arm, bit, and threw him down. The male was seized with sickness, and he made the people attend him as if he had been a human being. He was even bled twice in the right arm, and, whenever afterwards he found himself in the same condition, he held out his arm to be bled, as if he knew that he had formerly received benefit from that operation *.

Two of these animals were sent from the forests of the Carnatic, by a coasting vessel, as a present to the governor of Bombay. They, like the rest of the species, had many human actions, and seemed, by their melancholy, to have a rational sense of their captivity. They were scarcely two feet high, but walked erect, and had, very nearly, the human form. The female was taken ill during the voyage, and died ; and the male, exhibiting every demonstration of grief, seemed to take it so much to heart, that he refused to eat, and lived only two days afterwards †.

“ I saw at Java, (says Guat,) a very extraordinary Ape. It was a female. She was very tall, and often walked erect on her hind feet. Except on the eyebrows, there was no hair on her face, which pretty

* Buff. Quad. viii. 89.

† Grose i. 132.

much resembled the grotesque female faces I had seen among the Hottentots at the Cape. She made her bed very neatly every day, lay upon her side, and covered herself with the bed-cloths. She often bound her head up with a handkerchief, and it was amusing to see her thus hooded in bed. I could relate many other little circumstances which appeared to be extremely singular; but I by no means admired them so much as most other persons did, because, as I knew the design of bringing her to Europe to be exhibited as a shew, I was inclined to think that she had been taught many of these monkey-tricks, which the people considered as natural to the animal. She died in our ship, about the latitude of the Cape of Good Hope *."

Gemelli Carreri gives an instance of something very analogous to reason in these animals. He tells us that when the fruits on the mountains are exhausted, they frequently descend to the sea coasts, where they feed on various species of shell-fish, but in particular on a large species of oyster, which commonly lies open on the shore: fearful, he says, of putting in their paws, lest the oyster should close and crush them, they insert a pretty large stone within the shell, this prevents it from closing, and they then drag out their prey and devour it at leisure *.

Pere Carbasson brought up an Oran Otan, which became so fond of him, that wherever he went it always seemed desirous of accompanying him:

* Voy. de Fr. le Guat, in Buff. Quad. viii. 92. † Buff. Quad. viii. 93.—Barbot v. 101.

whenever, therefore, he had to perform the service of his church, he was always under the necessity of shutting it up in a room. Once, however, the animal escaped, and followed the father to the church, where silently mounting on the sounding board above the pulpit, he lay perfectly still till the sermon commenced. He then crept to the edge, and, overlooking the preacher, imitated all his gestures in so grotesque a manner that the whole congregation were unavoidably urged to laugh. The father, surprized and confounded at this ill-timed levity, severely reprov'd his audience for their inattention. The reproof failed in its effect, the congregation still laughed, and the preacher, in the warmth of his zeal, redoubled his vociferations and his actions: these the Ape imitated so exactly, that the congregation could no longer restrain themselves, but burst out into a loud and continued laughter. A friend of the preacher at length stepped up to him, and pointed out the cause of this improper conduct; and such was the arch demeanour of his animal, that it was with the utmost difficulty he could command the muscles of his countenance, and keep himself apparently serious, while he ordered the servants of the church to take him away.

THE BARBARY APE*.

The forests of India, Arabia, and Africa, are the habitations of this species; and they are so common

* SYNONYMS.—*Simia Inuus*. Linn.—Magot. Buffon.—Momehet. Johnston.—Yellow Ape. Du Halde.—Barbary Ape. Pennant—Shaw's Gen. Zool. pl. 7.—Bew. Quad. p. 417.

in Barbary, that trees are sometimes literally covered with them *. A few are found near Gibraltar.— Their face is not much unlike that of a dog. Their general length is betwixt three and four feet. The colour of the back is a greenish brown, and that of the belly pale yellow. The cheeks are furnished with pouches †.

In their manners these animals are generally both fierce and mischievous. They live on vegetables, and are said to assemble at times in the open plains of India, in vast troops, and if they see any of the women going to market, they immediately attack them, and take away their provisions ‡. Tavernier, apparently alluding to this species, says, that some of the inhabitants of India have an odd mode of amusing themselves at their expence. These people place five or six baskets of rice, forty or fifty yards asunder, in an open ground near their retreat, and by every basket put a number of stout cudgels, each about two feet long: they then retire to some hiding place, not far distant, to wait the event. When the Apes observe no persons near the baskets, they soon descend in great numbers from the trees, and run towards them. They grin at each other for some time before they dare approach; sometimes they advance, then retreat, seeming much disinclined to encounter. At length the females, which are more courageous than the males, especially those that have young ones, (which they carry in their

* Church.—† Penn. Quad. 1. 171.—‡ Ib.

arms as women do their children), venture to approach the baskets, and as they are about to thrust their heads in to eat, the males on the one side advance to hinder them. Immediately the other party comes forward, and the feud being kindled on both sides, the combatants seize the cudgels and commence a most severe fight, which always ends with the weakest being driven into the woods with broken heads and limbs. The victors, he tells us, then fall to in peace, and devour the reward of their labour*.

He also informs us, that as he was himself travelling in the East Indies, in company with the English president, a great number of large Apes were observed upon the trees around them. The president was so much amused, that he ordered his carriage to stop, and desired Tavernier to shoot one of them. The attendants, who were principally natives, and well acquainted with the manners of these animals, begged him to desist, lest those that escaped might do them some injury in revenge for the death of a companion. Being, however, still requested, he killed a female, which fell among the branches, letting her little ones, that clung to her neck, fall to the ground. In an instant all the remaining Apes, to the number of sixty or upwards, descended in fury, and, as many as could, leaped upon the president's coach, where they would soon have strangled him, had not the blinds been immediately closed, and the number of attendants so

* Travels in India.

great, as, though not without difficulty, to drive them off. They however continued to run after and teaze the servants for at least three miles from the place where their companion was slain*.

This species of Ape agrees well with our climate, and is very common in exhibitions in this country. It walks on four in preference to two legs; and uses the same grimaces to express both anger and appetite. Its movements are brisk, its manners gross; and, when agitated by passion, it exhibits and grinds its teeth. Notwithstanding its ferocious and unaccommodating disposition, it is, by perserverance and force of discipline, generally taught to perform a few tricks, and to shew off, in some mode or other, to the spectators†. Some of them will learn to dance, make gesticulations in cadence, and allow themselves peaceably to be clothed.

Buffon had a Barbary Ape several years. In Summer he says it delighted to be in the open air, and even in Winter it was frequently kept in a room without fire. Though long in confinement it did not become at all civilized. When food was given to it, it always filled its pouches: and when about to sleep, loved to perch on an iron or wooden bar‡.

THE PIGMY APE ||.

The Pigmy Ape is a native of Africa, the East Indies, and Ceylon. It is about the size of a Fox, and generally walks upright. The face is short and

* Travels in India.

† Penn. Quad. i. 172.

‡ Buff. Quad. viii. 117.

|| SYNONYMS—*Simia Sylvanus*. *Lin.*—*Pitheque*. *Buffon*.—*Pigmy Ape*. *Pennant*.—*Shaw's Gen. Zool.* pl. 8.

flat, and the ears very much resemble those of Men. The general colours of the body are olive-brown above, and yellowish on the belly.

In disposition these creatures are mild, and they may be tamed without much difficulty. When angry they use threatening gestures, and always chatter when pleased. They sip their drink from the palm of the hand *, mimic our smiles and frowns, and, as Linnæus says, imitate the forms of salutation used by the Caffres †. They have retentive memories, and frequently recollect the persons of benefactors for many years. In their general manners they are sagacious, gay, and frolicsome; but when laid hold of in a wild state they bite very furiously in self defence. In their native forests they associate in troops, and live principally on vegetables, grain, and fruit. Like many others of this genus they often go in a body to attack gardens or plantations. Previously to their commencement of the plundering excursion, one of the party is always sent to some eminence, to observe how far it appears safe for them to venture. If the course is clear, he gives a signal, and they all come forth and immediately proceed to business. He, however, still remains on the watch. If any one approaches he utters a loud scream, when those on the ground immediately run up the trees; and if the alarm continues, and the country is pretty well wooded, they pursue their route, by leaping from tree to tree, all

* Kerr. i. 58.

† Gmelin. i. 28.

the way to the mountains. In this procedure the females are frequently burthened by three or four young ones, clinging round their necks and backs, yet, in spite of this incumbrance, they are able to leap to a vast distance. The injury they do to the fruits and corn is incalculable: they gather them into heaps, tear and throw them on the ground in such quantities, that what they eat and carry off, is very trifling compared with the quantity they destroy.

They are said to live chiefly in caverns, and the natives adopt a singular mode of taking them alive. They place near their haunts vessels containing strong liquors, and the animals, assembling to enjoy the unexpected repast, become all intoxicated, fall asleep together, and in this predicament are easily secured *.

THE COMMON BABOON †.

The Common Baboon is found in the hottest parts of Africa, and also in the island of Borneo. It is often three or four feet in height, and in its upper parts excessively strong and muscular. When confined in a cage these animals sometimes lay hold of the bars, and shake them so powerfully as to make all the spectators tremble ‡. Towards the middle of

* Buff. Quad. viii. 106.

† SYNONYMS.—*Simia Sphinx*. Linn.—Mottled Baboon. Penn.—Parion. Buffon.—Common Baboon. Shaw.—Baboon. Bewick.—*Sharpe's Gen. Zool.* pl. 16.—*Bew. Quad.* p. 418.

‡ Bewick's Quadrupeds, 418.

the body, they are, like all the Baboons, very slender. Their general colour is a greyish brown; and the face, which is long, is of a tawny flesh-colour. They have pouches in their cheeks. The tail is very short, and round it, to a considerable distance, the posteriors are perfectly bare and callous *.

The disposition of these Baboons is exceedingly ferocious; and their appearance is, at once, both grotesque and formidable. They generally go in troops, and are dangerous enemies, when collected in any number. Their attitude is seldom upright, preferring the use of four to that of two legs.

In Siam they frequently sally forth in astonishing numbers, to attack the villages, during the time the labourers are occupied in the rice harvest, and plunder the habitations of whatever provisions they can lay their paws on †.—Fruits, corn, and roots, form their principal food, and in obtaining these they often commit the most violent outrages. Their great strength and the sharpness of their claws, render them formidable to dogs, who always overcome them with difficulty, except when excess in eating has rendered them, as it sometimes does, heavy and inactive. When at liberty one of them will easily overpower two or three men, if they happen to be unprovided with weapons of defence ‡.

The females seldom bring forth more than one

* Shaw, i. 16.

† Forbin, in Buff. Quad.

‡ Buff. Quad. viii. 122.—124.

young one each, which they carry between their arms : and they have not been known to produce in any other than hot climates. .

When in confinement these animals are invariably savage and ill-natured, frequently grinding their teeth, fretting and chafing with the utmost fury. One that was exhibited at Edinburgh in 1779 presented uniformly to the spectators the most threatening aspect, and attempted to seize every person who came within the reach of his chain. on these occasions he usually made a deep grunting noise, and tossed up his head almost perpetually *.

This species is very fond of eggs, and one of them has been known to put eight into his cheek-pouches at once : then taking them out one by one, he broke them at the end, and deliberately swallowed their contents. In confinement these Baboons may be induced to eat meat, but not unless it is cooked : they are very fond of wine or spirits. One that Mr. Pennant saw at Chester was of most tremendous strength, and excessively fierce. Its voice was a kind of roar, not unlike that of a Lion, except that it was low and somewhat inward. It went on all fours, and never stood on its hind legs, unless forced by the keeper ; but would frequently sit on its rump, in a crouching manner, and drop its arms across before its belly. It was an animal of great beauty, and appears to have been the same that Mr. Smellie saw at Edinburgh. Mr. Pennant says it was particularly fond of cheese, and that whenever

* Note of Mr. Smellie, Buff. Quad. viii. 126.

ears of wheat were given it, it dexterously picked out the grains, one by one, with its teeth, and ate them *.

Its capricious disposition often leads it to the most deliberate acts of mischief. Dr. Goldsmith says he has seen one of them break a whole service of China, evidently by design, yet without appearing in the least conscious of having done amiss †.

THE DOG-FACED BABOON ‡.

The Dog-faced Baboons, which are found in the hotter parts of Africa and Asia, associate in vast companies, and rob the plantations. When any passengers go by they are impudent enough to run up the trees, and shake the boughs at them with great fury, at the same time chattering very loud. They are about five feet high, and so fierce and numerous, that the Coffee-planters are compelled to have men continually on the watch to prevent their depredations. They are untameable, and so strong, as, without any difficulty, to overcome a man §.

This species is about five feet high when erect. The head and face greatly resemble those of a dog. The hair is very long and shaggy as far as the waist,

* Penn. Quad. i. 174.

† Goldsmith, iv. 199.

‡ SYNONYMS.—*Simia Hamadryas*. Linn.—Tartarin. Kerr, who places it among the Monkeys.—Dog-faced Baboon. Penn.—Shaw's Gen. Zool. pl. 15.—Bew. Quad. 424.

§ Penn. Quad. i. 180.

but short below. The face is naked, and the ears are pointed and hidden in the hair.

The Ursine Baboon.

These animals, which are usually supposed to be a variety of the Dog-faced Baboons, are natives of South Africa, and are found in great numbers among the mountains at the Cape. They associate in troops, and when any person approaches their haunts, they set up an universal and horrible cry for a minute or two, and then conceal themselves in their fastnesses, and keep a profound silence. They seldom descend to the plains, except for the purpose of plundering the gardens that lie near the foot of the mountains. While they are engaged in this they are careful enough to place centinels to prevent being surprised. They break the fruit into pieces, and cram it into their cheek-pouches, in order, afterwards, to eat it at leisure. The centinel, if he sees a man, gives a loud yell, which lasts for about a minute; and the whole troop retreats with the utmost expedition, and in a most diverting manner, the young jumping on, and clinging to the backs of their parents *. They feed also on several kinds of bulbous plants, which they dig up and peel with great address. Heaps of the parings of these may frequently be seen left behind them †.

When they discover any single person resting and regaling himself in the fields, if great care is

* Penn. Quad. i. 191.

† Thunberg, i. 285.

not taken, they will cunningly steal up behind, snatch away whatever they can lay hold of, then running to a little distance, will turn round, seat themselves on their posteriors, and with the most arch grimaces imaginable, devour it before the man's face. They frequently hold out it in their paws, as if to offer it back again, and then use such ridiculous gestures, that, although the poor fellow loses his dinner, he seldom can refrain from laughing*.

They are indeed so numerous among the mountains, as, at times, to render it exceedingly dangerous for travellers to pass them. They sit undismayed on the tops of the rocks, and not only roll, but even throw from thence stones of immense size. A gun, in these cases, is generally of indispensable use, in driving them to such a distance that the stones they throw may do no material injury. In their flight, even with their cubs on their backs, they often make most astonishing leaps, up perpendicular rocks. And their agility is so great as to render them very difficult to be killed, even with fire-arms†.

Lade has very accurately described their manners. "We traversed a great mountain in the neighbourhood of the Cape of Good Hope, and amused ourselves with hunting large Apes, which are very numerous in that place.—I can neither describe all the arts practised by these animals, nor the nimbleness and impudence with which they re-

* Kolben, ii. 120.

† Thunberg, i. 234.

turned, after being pursued by us. Sometimes they allowed us to approach so near, that I was almost certain of seizing them. But when I made the attempt, they sprung, at a single leap, ten paces from me, and mounted trees with equal agility, from whence they looked at us with great indifference, and seemed to derive pleasure from our astonishment. Some of them were so large, that if our interpreter had not assured us they were neither ferocious nor dangerous, our number would not have appeared to be sufficient to protect us from their attacks. As it could serve no purpose to kill them we did not use our guns. But the captain levelled his piece at a very large one that rested on the top of a tree, after having fatigued us a long time in pursuing him : this kind of menace, of which the animal, perhaps, recollected his having sometimes seen the consequences, terrified him to such a degree that he fell down motionless at our feet, and we had no difficulty in seizing him. But, when he recovered from his stupor, it required all our dexterity and efforts to keep him. We tied his paws together ; but he bit so furiously, that we were under the necessity of binding our handkerchiefs over his head *."

In confinement these Baboons may be rendered docile, yet they always retain the disposition to revenge an injury. At the Cape they are often taken young, and brought up with milk ; and Kolben tells

* Voyage of Robert Lade.

us, that they will become as watchful over their master's property, as the most valuable house-dog in Europe. Many of the Hottentots believe they can speak, but that they avoid it lest they should be enslaved, and compelled to work. Though not naturally carnivorous, they will eat meat or fish that is cooked *. They are generally kept fastened by means of a chain to a pole; and their agility in climbing, leaping, and dodging any one that offers to strike them is almost incredible. Though one of these animals was thus tied up, still it was impossible, at the distance of a few yards, to hit him with a stone. He would either catch it, like a ball, in his paw, or else he would avoid its blow in the most surprising and nimble manner †.

They are about five feet high, and are able, in spite of resistance, to drag the strongest man along with them.—They are sometimes caught with dogs, but it is necessary to have a tolerable number to subdue one of these animals. A single dog or two can seldom catch one of them, for if the Baboon, which is surprisingly agile, can but get a dog by the hind feet, he will swing it round till it is perfectly giddy. With their immense teeth they also bite very violently, and by means of them are able to defend themselves with the utmost obstinacy ‡.—When enraged by any person, even in a state of domestication, they attempt to lay hold of the ears; and they will sometimes bite one of them off as close as if it had been cut with a razor ||.

* Kolben, ii. 120. † Thunberg, i. 285. ‡ Thunberg, ii. p. 116.

|| Penn. Quad. i. 121.

Their features are somewhat like those of a dog, but extremely ugly. Their colour is dusky, and their hair of such a length as to give them much the appearance of a young Bear.

This seems to have been the same kind of Ape as one that M. le Vaillant had long with him in his travels through the southern parts of Africa, to which he gave the name of *Kees*. It was of infinite use to him, being a more watchful servant than any of his dogs, and frequently warning him of the approach of predacious animals, when they seemed unconscious that such were near. Its numerous whimsical pranks and actions are related in both M. le Vaillant's works, at considerable length.

THE EGRET MONKEY *.

The Egret Monkey is about two feet in length, and somewhat of the colour of a wolf. His head, which is excessively ugly, is large; his nose is depressed, his cheeks are wrinkled, his eyebrows prominent and bristly, and his lip cleft with a double fissure. On the top of the head is a pointed tuft of hair; and the feet are black. He is an inhabitant of South Africa, India, and Java, where he is very sportive and lively; gamboling on the trees, and making a continual noise during the night †.

These Monkeys often assemble in troops for the purpose of plundering the plantations. When they have entered a field of millet, they load themselves

* SYNONYMS.—*Simia Aygula*. *Linn.*—*Aigrette*. *Buffon*.—*Egret Monkey*. *Pennant*. † *Shaw*. i. 48.

with it, by taking in their mouths as much as they can carry, and putting a quantity under their arms and in each paw. Thus laden they return to their retreats, leaping all the way on their hind feet. If they are so unfortunate as to be pursued, they do not, in their alarm, let the whole fall, in order to run off: they drop the stalks which they held in their hands, and under their arms, that they may run on their four feet, which they do with more speed than on two, but still carefully retain what they carried in their mouth. They examine with the most scrupulous accuracy, every stalk they pull, and those they find not perfectly suited to their purpose, they throw on the ground, and tear up others instead. By this delicacy of choice they often do infinitely more damage than even by what they take away*.

They are mild and very tractable animals, but so dirty, ugly, and loathsome, that when they make their grimaces, they are scarcely to be viewed without disgust and horror.—The natives take them in snares concealed among the branches of the trees, where they are continually skipping about in the most active and ridiculous gambols †.

THE GREEN MONKEY ‡.

Mr. Adanson says the woods of Podor, in Africa, are filled with a species of Green Monkey. These

* Bosman 243.—Barbot, v. 212. This account has been applied by some naturalists only to the present species; but Bosman, who is their principal authority, makes it common to most of the Monkeys that are found on the coast of Guinea. † Barbot.

‡ SYNONYMS.—*Simia Sabæa* Linn.—*Callitriche* Buffon.—Green Monkey. Pennant.

break branches from the trees and throw them at travellers; and their green colour renders them almost invisible. They are also perfectly silent; and so nimble in their motions as easily to evade the sight. Mr. Adanson fired among them, when some concealed themselves behind the large branches, and others sprang from one tree to another, quite away. He killed twenty-three, not one of which uttered the slightest cry, although they had before assembled along with the rest, ground their teeth at him, and assumed a threatening aspect*.

The body is of a beautiful yellow green colour; the throat and belly are silvery white, and the face is black. Their size is about that of a small Cat. The tail is very long; and they run on all fours.

THE CHINESE MONKEY †.

The Chinese Monkey has its name from the unusual disposition of the hair on the top of its head, which is parted in the middle, lying smooth over each side, and spreading out in a circular direction, so as, in some measure, to resemble a Chinese cap.—These animals are found in immense troops in the woods of Ceylon, where they are very destructive to such gardens and plantations as lie within the reach of their settlements. They have long tails, and are about the size of a Cat. Their colour is a pale yellowish brown ‡.

* Adanson, 316.

† SYNONYMS.—*Simia Sinica*. *Linn.*—*Bonnet Chinois*. *Buffon*.—*Chinese Monkey*. *Pennant*.—*Shaw's Gen. Zool.* pl. 20.

‡ Shaw, i. 50.

In their depredations on the sugar grounds, one of the number is always placed as a centinel in some adjoining tree, while the rest load themselves with the booty. When he observes an enemy, he screams out to his companions, who, carrying as many canes as they can grasp with their right arm, instantly run off on three legs. When close pursued, they drop their prize, and endeavour to save themselves by scrambling up the trees, their usual places of abode.

When fruits and succulent plants fail, they eat insects, and sometimes descend to the margins of rivers, and the Sea-coast, to catch fish and crabs. They are said to put their tails between the pincers of the crab, and, when these are closed, to carry it quickly off, and eat it at leisure. They gather Cocoa-nuts, and are well acquainted with the method of extracting the juice for drink, and the kernel for food.—The natives often take them by means of a Cocoa-nut with a hole in it. This is laid near their haunts, and some one of them takes it up, and with difficulty thrusts his paw into the hole in order to get at the kernel ; the people who are on watch, immediately run up, and seize the animal before he can disengage himself*.

* Buff. Quad. viii. 149.

THE STRIATED MONKEY *.

This little animal, no bigger than a squirrel, is a native of Brazil. The tail is long and very thickly covered with fur, beautifully marked through its whole length with alternate bars of black and white. The body is of a reddish ash colour, slightly undulated with dusky shades. The face is a dark flesh colour, having on each side a very large and thick tuft of milk-white hair, standing out before the ears. The paws, which are covered with hair, have sharp nails †.

In a native state, these monkies are supposed to subsist principally on fruits, but in a state of confinement they will occasionally feed on insects, snails, &c. One that was brought to England in an East India ship would eat nuts, but could not be prevailed on to touch ripe fruits. This creature was peculiarly fond of the smaller kind of Spiders and their eggs, but he uniformly refused the larger ones, as well as the large blue-bottle Flies, though he frequently ate the common ones ‡.

Mr. Edwards saw and drew one that belonged to Mrs. Kennon, formerly midwife to the Royal Family. This lady informed him that it ate many different kinds of food, as biscuits, fruit, vegetables, insects, and snails; and that once, when let

* SYNONYMS.—*Simia Jacchus*. *Linn.*—Striated Monkey. *Penn. Shaw*—Oustiti. *Buff.*—Sanglin, or Lesser Cagui. *Edwards*.—Sanglin. *Kerr.*—*Shaw's Gen. Zool.* pl. 25. *Bew. Quad.* p. 439.

† Shaw, i. 62.

‡ Phil. Tran. xlvii. 146.

loose, it snatched a Chinese Goldfish out of a bason of water, which it killed and greedily devoured. After this, by way of trial, some small live Eels were given to him, which frightened him much at first, by twisting round his neck, he however soon called forth resolution enough to master and eat them.

A pair of these animals, which belonged to a Mr. Cook, a merchant of London, who resided at Lisbon, had young at that place. These at their birth were excessively ugly, having little or no fur. They would frequently cling very fast to the breasts of the dam; and when they grew a little, they used to hang on her back or shoulders. When she was tired, she would rub them off against the wall or whatever else was near, as the only mode of ridding herself of them. On being forced from the female, the male immediately took them to him, and suffered them to hang round him for a while to ease her of the burthen*.

Their voice is a kind of shrill hissing note; and most of them have a musky smell. Linnæus remarks that they are great enemies to cats †.

THE PREACHER MONKEY ‡.

These animals are natives of the New Continent, and found in vast numbers in the woods of Brazil and Guiana. They are the largest of all the Ame-

* Edwards's Glean. i. 15. pl. 218. † Gmel. i. 39.

‡ SYNONYMS.—*Simia Beelzebul*. Linn.—Howling Baboon. *Ban-*
eng.—*Caniba*. *Mangrovee*.—*L'Ouarine*. *Buffon*.—*Preacher Mon-*
key. *Pennant*.

rican Monkies, being about the size of a Fox. Their fur is smooth, and of a black, glossy colour. The tail is prehensile.

They are so wild and mischievous, as neither to be conquered nor tamed. They bite cruelly, and excite terror by their large mouths, and frightful voice and aspect. Their voice somewhat resembles the noise of a drum, and it is said, may be heard to the distance of a league. This proceeds from a kind of bony process in the throat, in the concavity of which the sounds are greatly augmented. Even in a dried fœtus this process was very perceptible*.

They usually keep together in parties of twenty or thirty, and ramble over the tops of the woods, leaping from tree to tree. If they see a person alone they always teaze and threaten him. Dampier says, whenever he was by himself he was always afraid of shooting at them, lest they should descend from the trees in a body and do him some injury †.

We are informed by Marcgrave that they assemble every morning and evening in the woods of Brazil, and make a most dreadful howling. Sometimes one of them mounts on a higher branch, and the rest seat themselves beneath : the first begins, as it were, to harangue, and set up a howl so loud and sharp as to be heard to a vast distance : after a while he gives a signal with his hand, when the whole assembly joins in chorus ; but on another signal they are again silent, and the orator finishes his

* Buffon's Quad. viii. 177—179.

† Dampier's Voyage.

address. Their clamour is the most disagreeable and tremendous that can be conceived*.

When Oexmelin was in South America, he attended the hunting of these animals, and was surprised at their sagacity, not only in distinguishing particularly those who were active against them, but when attacked, in defending themselves, and providing for their own safety. "When we approached," he says, "they all assembled together, uttered loud and fearful cries, and threw at us dried branches which they broke off the trees. I likewise remarked, that they never abandoned each other : that they leapt from tree to tree with incredible agility ; and that they flung themselves headlong from branch to branch without ever falling to the ground, always catching hold either with their hands or tail. If they are not shot dead at once they can never be taken, for even when mortally wounded, they remain fixed to the trees, where they often die, and from whence they do not fall till they are corrupted. More than four days after death I have seen them firmly fixed to the trees ; and thirteen or sixteen of them are frequently shot before three or four of them can be obtained. What is singular, as soon as one is wounded, the rest collect about him, and put their fingers into the wound, as if they meant to sound it ; and when much blood is discharged, some of them keep the orifice shut, while others make a mash of leaves, and dexterously

* Hist. Brazil, quoted in Buffon's Quad.

stop it up. This operation I have often observed with much admiration *."

The Monkeys that Dampier describes as having been seen near the Bay of Campeachy, appears evidently to have been of this species. "There was," says he, "a great company dancing from tree to tree over my head, chattering and making a terrible noise, and a great many grimaces and antic gestures. Some of them broke down dry sticks and flung at me; and one bigger than the rest, came to a small limb just over my head, and leaping directly at me, made me start back, but the Monkey caught hold of the bough with the tip of his tail, and there remained swinging to and fro, making mouths at me. At last I passed on, they still keeping me company, with the like menacing gestures till I came to our huts."

"They are very sullen when seized, and extremely difficult to be taken when shot, for they will cling with their tail and feet to a bough, as long as any life remains. When I have shot at one, and broken its leg or arm, I have pitied the poor creature, to see it look at and handle the broken limb, and then turn it from side to side in a manner so mournful as scarcely to be described †."

* It seems very probable that M. Oexmelin has misconstrued some other action of these animals, for this completely surgical operation. That they have been frequently known to pull out the arrows from their own bodies, which the Indians have shot at them, we have pretty good evidence for asserting; but this is only a simple effort, and does not require any of that extent of reasoning faculty, which is absolutely necessary in an operation like the above.

† Dampier's Voyage, ii. 60.

Dampier says that they often descend to the Seashores to feed on shell fish. He saw several Monkeys take up Oysters from the Leach, lay them on a stone, and beat them with another till they demolished the shells, and then devour their contents. The same circumstance was observed by Wafer in the island of Gorgonia; "Their way was to lay the Oyster on a stone, and with another to beat it till the shell was broken to pieces *".—The females produce two young ones at a birth, and in their excursions they always carry one of these in their arms and the other on their back, clasping its two fore-paws round the neck, and with the hind ones laying hold of the middle of the back. There is no other method of obtaining the young, but by killing the dam, for nothing will induce her to abandon them while living †.

Many of the voyagers describe the flesh as excellent eating, having a great resemblance in taste to mutton. Dampier even says, that he never ate any thing more delicious than this and some others of the Monkey tribes. The heads are frequently served up by the Europeans in soup, and the Negroes devour these animals as the greatest delicacy. There seems something extremely disgusting in the idea of eating, what appears, when skinned and dressed, so like a child. The skull, the paws, and indeed every part of them remind us, who are unaccustomed to it, much too strongly of the idea of devouring a fellow creature.

* Wafer, 195.

† Buffon.

THE FOUR FINGERED MONKEY *.

The Four-fingered Monkey is an inhabitant of several parts of South America. Its length is about eighteen inches from the muzzle to the rump, exclusive of the tail, which is near two feet long.—These are bold and active animals, full of gambols and grimace; and in disposition very mild and docile. From their numbers and activity they enliven the dreary forests of America.—They sometimes, from want of better food, eat fish, which Buffon tells us they catch with their tails. One that was in a cage, laid hold, in one of its frolicks, of a squirrel in this manner, that had been put to it as a companion. By the familiarity, and even the caresses of this animal, it obtained the affection of all those who attended it †.—When the fore-paws are tied behind their back, these Monkies will walk or run on their hind feet for almost any length of time, with the same ease and familiarity as if this was their natural posture. Although they are easily tamed, and in all their actions exhibit an uncommon degree of art and dexterity, they are not always without a mixture of that mischievous sagacity for which the whole tribe is remarkable.—We are told that, in their own country, when one of them is beaten, he will immediately climb, with the utmost agility, a lemon or an orange tree. If he is pur-

* SYNONYMS.—*Simia paniscus*. Linn.—Quato. Bancroft.—Spider Monkey. Edwards.—Coaita. Buffon.—Micoo? Stedman.—Shaw's *Gen. Zool.* pl. 28.

† Buff. Quad. viii. 184, 199.

sued, he will pick off the fruit, and throw it with singular dexterity at the head of his adversary ; and he frequently adopts other more unpleasant modes of repulsion. In these situations he assumes a thousand ridiculous attitudes, which afford considerable diversion to the spectators,

These animals, like most others of the tribe, when on expeditions of plunder, have the sagacity to place centinels on the heights of the forest, to give warning of the approach of danger*.—It has been said by Ulloa, that, in their native forests, when they want to pass from top to top of lofty trees, too distant for a leap, they will form a chain, by hanging down linked to each other by their tails ; and swing in this manner till the lowest catches hold of a bough of the next tree, from whence he draws the rest up. We are also told, that they occasionally cross rivers, where the banks are very steep, by the same expedient †.

The female brings forth one or two young, which she always carries on her back. During the fruit season these animals become fat, and they are then thought excellent eating.—Their colour is uniformly black, except the face, which is of a dark flesh colour. They have no thumbs on their fore-paws, but in the place of them have very small appendices, or pro jectons.

* Baneroff, 132.

† The truth of this assertion of Ulloa is doubted by Stedman, who saw much of the manners of the South American Monkeys, but never observed among them any action like this. It is, however, confirmed by Dampier, and Acosta ; but whether from their own observation, or only from the reports of the natives, it is impossible to say.

Capt. Stedman has mentioned his killing of the black monkeys of Surinam, called by the natives *Micoo*, which is either the present species, or an undescribed one nearly allied to it. The account is interesting. Being among the woods, and in want of fresh provisions, he shot at two of these animals, with the intention of making broth of them, “but the destruction of one of them was,” he says, “attended with such circumstances as almost ever afterwards deterred him from going a Monkey hunting.” —“Seeing me nearly on the bank of the river in the canoe, the creature made a halt from skipping after his companions, and being perched on a branch that hung over the water, examined me with attention, and the strongest marks of curiosity, no doubt taking me for a giant of his own species; while he chattered prodigiously, and kept dancing and shaking the bough on which he rested with incredible strength and agility. At this time I laid my piece to my shoulder, and brought him down from the tree into the stream;—but may I never again be witness of such a scene! The miserable animal was not dead, but mortally wounded. I seized him by the tail, and taking him in both my hands, to end his torment, swung him round, and hit his head against the side of the canoe; but the poor creature still continued alive, and looking at me in the most affecting manner that can be conceived, I knew no other means of ending his murder, than to hold him under the water till he was drowned, while my heart sickened on his account: for his dying little eyes still continued to follow me with seeming re-

proach, till their light gradually forsook them, and the wretched animal expired. I felt so much on this occasion, that I could neither taste of him nor his companion, when they were dressed, though I saw that they afforded to some others a delicious repast."

Of this species, Capt. Stedman relates a circumstance very remarkable.—He says, that one day he saw from his barge, one of these monkeys come down to the water's edge, rinse its mouth, and appear to clean its teeth with one of its fingers *.

THE FEARFUL MONKEY †.

The Fearful Monkey is one of the most agile, dexterous, and amusing of the whole genus. It is of a brown colour, with flesh-coloured face and ears, and about as big as a small cat. Though a native of Surinam, its constitution seems well adapted to our temperate climate; and it will live comfortably in winter in a room without fire. It has even been known to breed in Europe, which is very unusual with the Monkey tribe.—Its affection towards its offspring, is exceedingly tender. In one pair that produced at Bourdeaux, in the year 1764, nothing could be more beautiful than to see the two parents occupied with their little charge, which they teased incessantly, either by carrying it about, or by carressing it. The male loved it to distraction.

* Account of an Expedition to Surinam.

† SYNONYMS.—*Simia trepida*. Linn.—Bush-tailed Monkey. *Edwards*.—Sajou. *Buffon*.—Fearful Monkey. *Pennant*.

The father and mother carried it alternately ; but now and then, when it did not hold properly, they gave it a pretty severe bite.—Few animals are more whimsical than these in their taste and affections, entertaining partiality to some persons, and frequently the greatest aversion to others*.

THE SQUIRREL MONKEY †.

From the gracefulness of all its movements, the smallness of its size, brilliancy of its colours, and the largeness and vivacity of its eyes, this little animal has uniformly been preferred to all the other Monkeys.

It seems to be the same that Stedman describes in his account of Surinam, as called there by the natives, *Keesee-keesee*. He says, that these creatures are about the size of a Rabbet, and astonishingly nimble. The colour of their body is reddish, and their tail is black at the extremity, whilst the fore-feet are orange coloured. The head is very round, the face milk-white, with a round black patch in the middle, in which are the mouth and nostrils ; and this disposition of the features gives the animal the appearance of wearing a mask. The eyes are black, and remarkably lively. These Monkeys he saw daily passing along the sides of the river, skipping from tree to tree, regularly following each other,

* Buffon's Quadrupeds, viii. 194, note. Kerr, i. 77.

† SYNONYMS.—*Simia Sciurea*, Linn.—Orange Monkey. Penn.—Caitaia. Marcgrave.—Saimiri. Buffon.—Keesee-keesee. Stedman.—Squirrel Monkey. Shaw.—*Shaw's Gen. Zool.* pl. 25.

like a little army, with their young ones at their backs, not unlike small knapsacks. Their manner of travelling is this : the foremost walks to the extremity of a bough, from which it bounds to the extremity of one belonging to the next tree, often at a surprizing distance, and with such wonderful activity and precision, that it never once misses its aim : the others, one by one, and even the females with their little ones at their backs, which stick fast to their mother, follow their leader, and perform the same leap with the greatest apparent facility and safety. They are also remarkable for climbing up the *nebes* or natural ropes, with which many parts of the forests are interwoven*.

This is a very tender animal, and has not yet, I believe, been brought into Europe.

THE CINGALESE MONKEY †.

This Monkey is mentioned by Professor Thunberg, in his Account of Ceylon. He describes it as being about the size of a small Cat, and having a very long, hairy, tapering, and *prehensile* tail ; the body grey ; the face blackish, bald, and very little shaded with hair ; the beard on the chin and cheeks white, and turned backwards, the hairs standing, however, nearly erect, and almost covering the ears

* Stedman's Surinam.

† Thunberg calls this animal *Simia Silenus*. It certainly cannot be that of Linnaeus, which has a short tail, not prehensile, and in other respects is different. He calls it also *Rollewai*, and *Cingalese Ape*, but it appears to agree with none described in our present books.—See *Thunberg*, iv. 214.

in front. On the chin and upper-lip, he says, the hair is short, but on the cheeks above an inch in length. The hands and feet are blackish and naked; the nails long and blunt, and the thumb detached and short. On the posteriors there are hard and naked tuberosities. The tips of the ears are rounded, almost bare, and black.

These animals are kept tame in many of the houses of Ceylon. They are easily domesticated; and in this state generally sit upright, with their hands crossed over each other. When they observe any acquaintance, they immediately come jumping to him, fawn upon him, grin, and with a peculiar kind of cry testify their joy. They are of a very friendly and gentle nature, and never bite, unless much irritated. If in the presence of one of these creatures, any person kisses and caresses a child, he expresses a great desire to do the same. If a child is beaten in his presence, he rears himself on his hind-legs, grins and howls in a revengeful manner, and, if let loose, will attack the chastiser. He leaps faster than he can run, on account of his hind-legs being longer than the others; and he is very delicate and careful respecting his tail. Professor Thunberg attempted to bring one of them into Europe, but on coming into a cooler climate he died. They are all so very tender as not to be able to support the slightest degree of cold.

M. D'Obsonville, speaking of the sanctuaries for the Monkeys in several parts of India, says, that

when travelling, he has occasionally entered these ancient temples, to repose himself, and his Indian dress gave the animals little suspicion. He has seen several of them at first considering him, and then attentively looking at the food he was about to eat. Their eyes and agitation always painted their inquietude, their passion to gormandize, and the strong desire they had to appropriate at least a part of his repast to themselves.

In order to amuse himself on these occasions, he always took care to provide a quantity of parched pease. At first he would scatter a few on the side where the chief was, (for he says they have always a principal Monkey to head them) and the animal would approach by degrees, and collect them with avidity. He then used to present his handfull, and as they are in general accustomed to see none but pacific people, the chief would venture, but in a sideling manner, to approach, as if eagerly watching that there was no sinister contrivance. Presently, becoming bold, he would seize the thumb of the hand in which the pease were held, with one paw, and eat with the other, keeping at the same time his eyes steadily fixed on those of M. D'Obsonville. "If," continues our entertaining writer, "I laughed or moved, he would break off his repast, and working his lips, make a kind of muttering, the sense of which, his long canine teeth, occasionally shewn, plainly interpreted. When I threw a few at a distance, he seemed satisfied that others should gather them up; but he grumbled at, and sometimes struck those that came too near me. His cries

and solicitude, though in part perhaps the effect of greediness, apparently indicated his fear, lest I should take advantage of their weakness to ensnare them : and I constantly observed that those which were suffered to approach me nearest, were the well-grown and strong males ; the young and the females were always obliged to keep at a considerable distance."

The care and tenderness of the females, in a completely wild state, to their offspring was very conspicuous. They hold them under a proper obedience and restraint ; and M. D'Obsonville has seen them suckle, caress, cleanse, and search the vermin from their young, and afterwards, crouching on their hams, delight to see them play with each other. These would wrestle, throw, or chase one another ; and if any of them were malicious in their antics, the dams would spring upon them, and seizing them with one paw by the tail, correct them severely with the other. Some would try to escape, but when out of danger, approached in a wheedling and caressing manner, though ever liable to relapse into the same faults : in other cases, each would come at the first cry of the dam. If they removed to a little distance, the young would follow gently ; but when there was any necessity for going fast, they always mounted on the backs, or rather hung embracing the bellies of the females.

Monkeys are generally peaceable enough among each other. In extensive, solitary, and fertile places, herds of different species sometimes chatter together, but without disturbance, or any confusion

of the race. When, however, adventurous stragglers seem desirous of seeking their fortunes in places where another herd is in possession, these immediately unite to sustain their rights. M. de Maisonpré, and six other Europeans, were witnesses to a singular contention of this nature in the enclosures of the Pagodas of Cherinam. A large and strong Monkey had stolen in, but was soon discovered. At the first cry of alarm many of the males united, and ran to attack the stranger. He, though much their superior in size and strength, saw his danger, and flew to attain the top of a pyramid, eleven stories high, whither he was instantly followed; but when arrived at the summit of the building, which terminated in a small round dome, he placed himself firmly, and taking advantage of his situation, seized three or four of the most hardy, and precipitated them to the bottom. These proofs of his prowess intimidated the rest, and after much noise they thought proper to retreat. The conqueror remained till evening, and then betook himself to a place of safety.

Their conduct towards such of their brethren as become captives is very remarkable. If one is chained in their neighbourhood, especially if of the society to which he belonged, they will attempt various means, for some time, to procure his liberty: but when their efforts prove ineffectual, and they see him daily submit to slavery, they will never again, if he should by any chance escape, receive him among them, but will fall upon and beat him away without mercy.

Such is their propensity to thieving, that, not contented with the plenty that Nature affords them in the woods, they seldom fail to steal from houses or gardens whatever they are able to carry away. When any of them perceive a child with bread or fruit in its hand, they immediately run up, frighten it, and take away its food. If a woman is drying grain in the sun, which in India is very common, she will sometimes find difficulty in beating them off. Some of them skip round and pretend to steal; and the moment she runs to strike them, the others, watching the opportunity, fall too and seize the grain with all the address imaginable.

M. D'Obsonville has seen Monkies caught, cunning as they are, by a very simple contrivance. The man employed chose a place near their haunts, and fastened a copper vessel, with a mouth about two inches in diameter, to the foot of a tree; then, after scattering some grains, removed to a distance. These were soon devoured, and he brought more. The third time he was more bountiful of his grain, especially around and within the pot, in which there were placed fixed five or running knots, crossing each other in different directions. He had scarcely hidden himself before several Monkies and their young ran to try who should get first. They had soon emptied the vessel, but their hands were caught. The man approached before they had time to liberate themselves, threw a carpet over them, and thus took two females and their young*.

* D'Obsonville, 380.

THE LEMUR TRIBE.

THE animals composing the present tribe have a considerable resemblance to the Monkeys in their habits and manners, as well as in their hand-like paws. They differ from them principally in the shape of the head, which is somewhat like that of a Fox, and in the length of their hind legs. Except in using their paws as hands, none of these creatures have any resemblance whatever to mankind.

The principal Linnæan characters of the tribe are, four front teeth in the upper jaw, the intermediate ones remote : six long, compressed, parallel teeth in the under jaw : the canine-teeth solitary ; and the grinders somewhat lobated *.

There are in the whole *thirteen* species ; but it is only of one of these that we have hitherto been able to obtain any thing except mere description.

THE SLOW LEMUR †.

The Slow Lemur is about the size of a small Cat. Its body is of an elegant pale brown, or Mouse colour. The face is flattish, and the nose somewhat sharpened. The eyes are extremely prominent ; they are surrounded with a circle of dark brown, and a stripe of the same colour runs down the middle of the back.—This animal is found in the Island of Ceylon, and in various parts of the East Indies.

* Gmelin, i. 41.

† SYNONYMS.—Lemur Tardigradus. Linn.—Tailless Macaoco. Penn. Syn.—Loris. Buffon: the name given to it by the Dutch.—The Vangua or Tatonneur. D'Olsonville.—Slow Lemur. Shaw.—Shaw's Gen. Zool. pl. 29. Bew. Zool. 400.

It is very slow in its motions, and, from this circumstance, has actually been ranked by some Naturalists among the Sloths, though in no other respect resembling them. It is a nocturnal animal, and sleeps, or at least lies motionless, during the greatest part of the day. In captivity it will feed on boiled rice, small birds, or insects. Its odour is said to be disagreeable.

The late learned and accomplished Sir William Jones has given a pleasing general description of this little creature, in the fourth volume of the Asiatic Researches; and as it is always interesting to observe the habits of an animal, even in a domestic state, in its native country, I shall insert an extract from his curious paper.

“ In his manners he was for the most part gentle, except in the cold season, when his temper seemed wholly changed; and his Creator, who made him so sensible of cold, to which he must often have been exposed even in his native forests, gave him, probably for that reason, his thick fur, which we rarely see on animals in these tropical climates. To me, who not only constantly fed him, but bathed him twice a week in water accommodated to the seasons, and whom he clearly distinguished from others, he was at all times grateful; but when I disturbed him in winter he was usually indignant, and seemed to reproach me with the uneasiness which he felt, though no possible precautions had been omitted to keep him in a proper degree of warmth. At all times he was pleased with being stroked on the head and throat, and frequently

suffered me to touch his extremely sharp teeth ; but his temper was always quick, and when he was unseasonably disturbed, he expressed a little resentment, by an obscure murmur, like that of a Squirrel, or a greater degree of displeasure by a peevish cry, especially in winter, when he was often as fierce, on being much importuned, as any beast of the woods.

“ From half an hour after sun-rise to half an hour before sun-set, he slept without intermission, rolled up like a Hedgehog ; and, as soon as he awoke, he began to prepare himself for the labours of *his* approaching day, licking and dressing himself like a Cat ; an operation which the flexibility of his neck and limbs enabled him to perform very completely : he was then ready for a slight breakfast, after which he commonly took a short nap ; but when the sun was quite set he recovered all his vivacity.

“ His ordinary food was the sweet fruit of this country ; plantains always, and mangoes during the season ; but he refused peaches, and was not fond of mulberries, or even of guaiavas : milk he lapped eagerly, but was content with plain water. In general he was not voracious, but never appeared satisfied with Grasshoppers ; and passed the whole night, while the hot season lasted, in prowling for them. When a Grasshopper, or any insect, alighted within his reach, his eyes, which he fixed on his prey, glowed with uncommon fire ; and, having drawn himself back to spring on it with greater force, he seized the prey with both his fore-paws, but held it

in one of them while he devoured it. For other purposes, and sometimes even for that of holding his food, he used all his paws indifferently as hands, and frequently grasped with one of them the higher part of his ample cage, while his three others were severally engaged at the bottom of it; but the posture of which he seemed fondest was to cling with all four of them to the upper wires, his body being inverted. In the evening he usually stood erect for many minutes, playing on the wires with his fingers, and rapidly moving his body from side to side, as if he had found the utility of exercise in his unnatural state of confinement.

“ A little before day-break, when my early hours gave me frequent opportunities of observing him, he seemed to solicit my attention; and if I presented my finger to him he licked or nibbled it with great gentleness, but eagerly took fruit when I offered it; though he seldom ate much at his morning repast: when the *day brought back his night*, his eyes lost their lustre and strength, and he composed himself for a slumber of ten or eleven hours.

“ My little friend was, on the whole, very engaging; and when he was found lifeless in the same posture in which he would naturally have slept, I consoled myself with believing that he died without much pain, and lived with as much pleasure as he could have enjoyed in a state of captivity.”

In the year 1755, M. D'Obsonville purchased one of these animals of an Indian. He was very slow in his motions, so that even when he seemed

desirous of moving fast, he scarcely went above six or eight yards in a minute. His voice was a kind of whistling, by no means unpleasant. When his prey was attempted to be taken from him, his countenance changed to an appearance expressive of chagrin, and he inwardly uttered a tremulous, acute, and painful note. He was melancholy, silent, and patient. He generally slept during the day with his head resting upon his hands, and his elbows between his thighs. But in the midst of this sleep, although his eyes were closed, he was exceedingly sensible to all impressions from without, and never neglected to seize whatever prey came inconsiderately within his reach. Though the glare of sun-shine was very unpleasant to him, it was never observed that the pupils of his eyes suffered any contraction.

During the first month he was kept with a cord tied round his waist, which, without attempting to untie, he sometimes lifted up with an air of grief. M. D'Obsonville took charge of him himself, and at the beginning he was bitten four or five times for offering to disturb or take him up; but gentle chastisement soon corrected these little passions, and he afterwards gave him the liberty of his bed-chamber. Towards night the little animal would rub his eyes, then looking attentively round, would climb upon the furniture, or more frequently upon ropes placed for the purpose.

Sometimes M. D'Obsonville would tie a bird in the part of the chamber opposite to him, or hold it in his hand in order to invite him to approach: he would presently come near with a long careful step,

like a person walking on tip-toe, to surprize another. When within a foot of his prey he would stop, and raising himself upright, advance gently, stretching out his paw, then, at once seizing, would strangle it with remarkable celerity.

He perished by an accident. He appeared much attached to his master, who always used to carress him after feeding. His return of affection consisted in taking the end of M. D'Obsonville's fingers, pressing them, and at the same time fixing his half-open eyes on those of his master *.

Two of these animals, which Thevenot saw in the East, were brought from Ceylon. When examined, they would stand on their hind feet. They often embraced each other, and looked stedfastly on the numerous spectators that visited them, without seeming in the least alarmed †.

THE BAT TRIBE.

THESE very singular animals would seem at first sight to hold a kind of middle station between the Quadrupeds and Birds. It is however only in their power of raising themselves into the air by means of the membranes which extend round their body, that they are in the least allied to the latter, whilst with

* D'Obsonville, 370—373.

† Relation, iij. 217.

the other they claim a place, from their structure, both externally and internally.

Bats have erect sharp-pointed teeth, placed near together. Their fore-toes are lengthened, and connected by the membranes which perform the office of wings*.

Their structure cannot be contemplated without admiration, the bones of the extremities being continued into long and thin processes, connected by a most delicately formed membrane or skin, capable, from its thinness, of being contracted at pleasure into innumerable wrinkles, so as to lie in a small space when the animal is at rest, and to be stretched to a very wide extent for occasional flight.—Should a speculative Philosopher, not aware of the anatomical impossibility of success, attempt, by means of light machinery, to exercise the power of flight, he could not hit on a more plausible idea than that of copying the structure described. Accordingly, a celebrated author has represented a sage theorist busied in imitating, for this purpose, “the folding continuity of the wing of the Bat†.”—Although this membrane enables the Bat, after it has once raised itself from the ground, which it does with some difficulty, to flit along the air, yet all its motions, when compared with those of birds, are clumsy and awkward; and, in walking, its feet appear so entangled with its wings, that it seems scarcely able to drag its body along.

* Linn. Gmel. i. 45.

† Shaw's Gen. Zool. i. 122.

THE LONG-EARED BAT*.

The long-eared Bat is only an inch and three-quarters in length, while the extent of its wings is seven inches. Its ears are above an inch long, very thin, and almost transparent; and within each there is a kind of secondary auricle, or membrane, resembling an ear, so placed as to serve for a valve or guard to the auditory passage.—This is one of the most common of the British Bats, and one of those that we often see flitting about in search of insects, in the fine evenings of summer and autumn.

All the European species of Bats pass the winter, from the absence of their insect prey, in a torpid state, without either food or motion, suspended in some dark place, in old ruins, caverns, or in the hollows of decayed trees. During the time they remain in this state, most of the animal functions are so far suspended, as scarcely to be perceptible. The action of the heart and arteries becomes so exceedingly languid, that the pulse can hardly be felt: if respiration be at all carried on, it is also so very slow as scarcely to be discoverable. The natural temperature, or animal heat, gets greatly below the usual standard; and digestion becomes altogether suspended. All the visible excretions are at a stand; and none of the functions seem to go on, excepting a very slow degree of nutrition, and an inter-

* SYNONYMS.—*Vespertilio Auritus*. *Linn.*—Long-eared English Bat. *Edwards.*—*Oreillar*. *Buffon.*—Long-eared Bat. *Penn.*—*Shaz's Gen. Zool.* pl. 40.—*Bew. Zool.* 476.

change of old for new matter in the depositary cells of the body : this last is proved by the animals' entering into the torpid state very fat, and reviving excessively emaciated ; and from this it appears that the oil, in the fatty follicles of the cellular membrane, is gradually taken up by the absorbent vessels into the languid circulation, to supply the proportionally gradual waste, occasioned by the more than half suspended action of the emunctories *.—They retire at the end of summer to their hiding places, where, generally in great numbers, they remain suspended by the hind-legs, and enveloped in their wings †.

The Bat, like the Mouse, is capable of being tamed to a certain degree ; and we are told by Mr. White, that he was once much amused with the sight of a tame Bat. “ It would take Flies out of a person's hand. If you gave it any thing to eat, it brought its wings round before the mouth, hovering and hiding its head in the manner of birds of prey when they feed. The adroitness it shewed in shearing off the wings of the Flies, (which were always rejected) was worthy of observation, and pleased me much. Insects seemed to be most acceptable, though it did not refuse raw flesh when offered ; so that the notion that Bats go down chimnies, and gnaw people's bacon, seems no improbable story. While I amused myself with this

* These observations apply to all those animals, of every description, that go into a torpid state during winter.

† Kerr, i. 94.

wonderful quadruped, I saw it several times, confute the vulgar opinion that Bats, when down on a flat surface cannot get on the wing again, by rising with great ease from the floor. It ran, I observed, with more dispatch than I was aware of, but in a most ridiculous and grotesque manner *.

From experiments made by Spallanzani, on the Long-eared, the Horse-shoe, and the Noctule Bats, it appears that these animals possess some additional sense, which enables them, when deprived of sight, to avoid obstacles as readily as when they retained the power of vision. When their eyes were covered, or even put entirely out, they would fly about in a darkened chamber without ever hitting against the walls, and always suspend their flight with caution when they came to a place where they could perch. In the middle of a dark sewer, that turned at right angles, they would always, though at a considerable distance from the walls, regularly bend their flight with the greatest nicety. When branches of trees were suspended in a room, they always avoided them; and flew betwixt threads hung perpendicularly from the ceiling, though these were so near each other, that they had to contract their wings in passing through them †. Mr. Jurin supposes that the sense which enables them to perform these unaccountable operations is lodged in the expanded

* Natural History of Selborne.

† These remarks appeared in a small work, entitled "An Account of Some species of Bats which, when deprived of sight, perform their movements in the air as if they saw; a faculty not possessed by other birds, under the same circumstances."

nerves on the nose* ; but on that of the present, and several other species, the membrane in which these end, is wanting. Some have supposed, however, that this power of avoiding obstacles in the dark is dependant principally on their ears ; for when the ears of the blinded Bats were closed, they hit against the sides of the room, and did not seem at all aware of their situation.

Several of the present species were collected together for the purpose of the above experiments, and they were preserved in a box for more than a week. They refused every species of food for several days. During the day-time they were extremely desirous of retirement and darkness, and, while confined to the box, never moved or endeavoured to get out while it was light ; and, when spread on the carpet, they commonly rested for a few minutes, and then beginning to look about, crawled slowly to a dark corner or crevice. At sunset the scene was quite changed ; every one then endeavoured to scratch its way out of the box ; a continued chirping was kept up, and no sooner was the lid of the prison opened, than each was active to escape, either flying away immediately, or running nimbly to a convenient place for taking wing. When these Bats were first collected, several of the females had young ones clinging to the breast in the act of sucking. One of them flew with perfect ease, though two little ones were thus attached to

* Journal de Physique, for 1798.

her, which weighed nearly as much as their parent. All the young were devoid of down, and of a black colour*.

From Linnæus we learn, that the female makes no nest for her young, as most birds and quadrupeds do. She is content with the first hole she finds, where, sticking herself by her hooks against the sides of her apartment, she permits her young to hang at the nipple, and in this manner continues for the first or second day. When, after some time, the dam begins to grow hungry, and finds a necessity of stirring abroad, she takes her little ones off and sticks them to the wall, in the manner she before hung herself, where they immovably cling, and patiently wait till her return.

Bats may be caught by throwing into the air the heads of Burdock, whitened with flour. Either mistaking these for prey, or dashing casually against them, they are caught by the hooked prickles, and brought to the ground†.

THE VAMPYRE BAT †.

The Vampyre Bat is in general about a foot long, and in the extent of its wings near four feet; but it is sometimes found larger, and specimens have been seen of six feet in extent. Its general colour is a

* Shaw's Gen. Zool. i. 129.

† Linn. Gmel. i. 48.

‡ SYNONYMS.—*Vespertilio vampyrus*. Linn.—Ternate Bat. Penn.—Great Bat. Edwards.—Roussette. Buffon.—*Pero volador*, in New Spain. Stedman.—Shaw's Gen. Zool. pl. 44.

deep reddish brown. The head is shaped like that of a Fox; the nose is sharp and black, and the tongue pointed and terminated by sharp prickles. The ears are naked, blackish, and pointed; and the wings similar in colour to those of the Common Bat *.

These animals are found in several parts of the East Indies, and in all the Indian islands; in New Holland, the Friendly Isles, New Caledonia, and South America.—They fly from sun-set to sun-rise, and reside during the day in the hollow trees. They are not carnivorous, but live principally on fruit, and are so fond of the juice of the palm tree, that they will intoxicate themselves with it till they fall senseless to the ground. They skim the water with perfect ease in their sportive moods, and frequently dip into it to wash themselves. Mr. Forster and several other writers inform us that they swarm like Bees, hanging near one another in vast clusters. At least *five hundred* were seen by this gentleman, hanging, some by their fore, and others by their hind legs, in a large tree, in one of the Friendly islands †. Finch says, that “they hang by the claws to the bows of trees near Surat, in such vast clusters, as would surprise a man to see; and the noise and squealing they make is so intolerable, that ’twere a good deed to bring two or three pieces of ordnance, and scour the trees, that the country might be rid of such a plague as they are to it ‡.” In a

* Shaw, i. 145.

† Forster’s Observations on Cook’s second Voyage, 189.

‡ Finch’s Travels into the East, in Harris’s Collection, i. 84.

small island, one of the Philippines, Dampier tells us that he saw an incredible number of Bats, so large that none of his company could reach from tip to tip of their wings, with their arms extended to the utmost. The wings were of a mouse colour, and on the joints were sharp crooked claws. In the evening, as soon as the sun was set, he says, these animals used to take their flight in swarms, like Bees, to a neighbouring island; and they were seen to continue in immense numbers, till darkness rendered them no longer visible. The whole of the time from day-break in the morning till sunrise, they occupied in returning to their former place; and this course they constantly pursued all the time the ship remained stationed off that island*.

At Rose Hill, near Port Jackson, in New Holland, it is supposed that more than *twenty thousand* of these animals were seen within the space of a mile†.—Some that were taken alive in New Holland, would almost immediately after eat boiled rice, and other food from the hand; and in a few days became as domestic as if they had been entirely bred in the house. Governor Phillip had a female, which would hang by one leg a whole day without changing its position, and in that pendant situation, with its breast neatly covered with one of its wings, it would eat whatever was offered to it, lapping from the hand like a cat‡.

Linnaeus has given to this Bat the specific denomination of *Vampyrus*, for his conjecturing it to be

* Dampier.

† Hunter, 507.

‡ Ibid.

the species that draws blood from people during their sleep*: but there is reason to imagine, that this thirst for blood is not confined to a single species, but is common to most of the Bat tribe. We are informed that the Bats of Java seldom fail to attack those persons who lie with their extremities uncovered, whenever they can get access to them. Persons thus attacked, have sometimes been near passing from a sound sleep into eternity. The Bat is so dexterous a bleeder as to insinuate its aculeated tongue into a vein without being perceived, and then suck the blood till it is satiated; all the while fanning with its wings, and agitating the air, in that hot climate in so pleasing a manner, as to throw the sufferer into a still sounder sleep.—These animals do not, however, confine themselves to human blood, for M. Condamine, in his voyage to South America, says, that in his time they had, in certain parts, destroyed all the great cattle introduced there by the Missionaries.

Capt. Stedman, whilst in Surinam, was attacked during his sleep by a Vampire Bat; and as his account of this incident is somewhat singular, and tends to elucidate the fact, I shall extract it in the language of his own narrative. “I cannot here (says he,) forbear relating a singular circumstance respecting myself, viz. that on waking about four o'clock one morning in my hammock, I was extremely alarmed at finding myself weltering in congealed blood, and without feeling any pain whatever. Having started up, and rung for

for the surgeon, with a fire-brand in one hand, and all over besmeared with gore; to which, if added, my pale face, short hair, and tattered apparel, he might well ask the question,

- ‘ Be thou a spirit of health, or goblin damn’d,
- ‘ Bring with thee airs of heav’n, or blasts from hell!’

The mystery, however, was, that I had been bitten by the *Vampyre*, or *Spectre* of Guiana, which is also called the *Flying Dog* of New Spain, and by the Spaniards *Perro-volador*; this is no other than a Bat, of a monstrous size, that sucks the blood from men and cattle while they are fast asleep, even sometimes till they die; and as the manner in which they proceed is truly wonderful, I shall endeavour to give a distinct account of it.—Knowing, by instinct, that the person they intend to attack is in a sound slumber, they generally alight near the feet, where, while the creature continues fanning with his enormous wings, which keeps one cool, he bites a piece out of the tip of the great toe, so very small indeed, that the head of a pin could scarcely be received into the wound, which is consequently not painful; yet through this orifice he continues to suck the blood, until he is obliged to disgorge. He then begins again, and thus continues sucking and disgorging till he is scarcely able to fly, and the sufferer has often been known to sleep from time into eternity. Cattle they generally bite in the ear, but always in places where the blood flows spontaneously. Having applied tobacco ashes as the best remedy, and washed the gore from myself and my hammock, I observed several small heaps of

congeal'd blood all round the place where I had lain, upon the ground; on examining which, the surgeon judged that I had lost at least twelve or fourteen ounces during the night *."

The smell of these creatures is stronger and more rank than that of a Fox †; yet the Indians eat them, and declare their flesh to be excellent food. They become excessively fat at certain times of the year, and it is then that they are said to be the most delicious. The French, who reside in the isle of Bourbon, boil them in their bouillon, *to give it a relish!*

In New Caledonia the natives use the hair of these animals in the making of ropes, and in the tassels of their clubs; interweaving it with the threads of *Cyperus squarrosus* ‡.

* Narrative of an Expedition to Surinam.

† Hunter.

‡ Penn. Quad. ii. 550.

THE SLOTH TRIBE *.

IN this tribe there have been hitherto only *three* species discovered, two of which are found more commonly in South America than in any other parts of the world. Their motions are unparalleled in the rest of the animal creation, for slowness and inactivity. The feet are furnished with strong hooked claws to enable them to climb the trees, where their voracity leads them to devour both the leaves and fruit †. Their eyes are languid and heavy, and their whole countenance expresses so much misery, that no one can look upon them without pity. Their teats are seated on the breast; and in two of the species it is a remarkable circumstance, that, instead of distinct excretory apertures, there is only one common canal, as in Birds ‡.

The Sloths have no cutting teeth in either jaw: the canine-teeth are obtuse; and there are five grinders on each side. Their fore-legs are much

* The Linnæan Order, BRUTA, commences with the Sloths. The animals belonging to this order have no front-teeth in either jaw. Their feet are armed with strong, blunt, and hoof-like nails. Their form is in appearance clumsy, and their pace somewhat slow. Their food is for the most part vegetable.—None of the animals of this order are found in Europe. They consist principally of the Sloths, the Ant-eaters, the Rhinoceros, Elephant, and Manati.

† Elements of Natural History, i. 79.

‡ Kerr, i. 102.

longer than the hinder ones ; and the body is covered with hair, and not with scales, as in the Armadillo, and some other animals of this order.

THE THREE-TOED SLOTH *.

Of the Three-toed Sloth, which is a native of the hotter parts of South America, we have a very curious, though often-quoted account, written by Kircher, principally from the authority of a Provincial of the Jesuits, in South America, who had several of these animals in his possession, and tried many experiments with them relative to their nature and properties. Its figure is, (he says) extraordinary: it is about the size of a Cat, has a very ugly countenance, and has its claws extended like fingers. It sweeps the ground with its belly, and moves so slowly that it would scarcely go the length of a bow-shot in fifteen days, though constantly in motion† ; hence it obtained the name of Sloth. It lives generally on the tops of trees, and employs two days in crawling up, and as many in getting down again. Nature has doubly guarded it against its enemies, first, by giving it such strength in its feet, that whatever it seizes, is held so fast, that it will not suffer itself to be freed, but must die of hunger.

* SYNONYMS.—*Bradypus Tridactylus*.—*Linn.*—Sloth. *Edwards.*—*Luyart.* *Nieuhof.*—*Haut.* *Nieremb.*—*Ai, Buffon.* Three-toed Sloth. *Penn.*—*Sharp's Gen. Zool. pl. 45.*—*Berz. Quad. 457.*

† This seems to be an erroneous assertion, for although in their progressive powers they are extremely inactive, yet all others writers that I have consulted agree in their being able to travel at least fifty or sixty paces in a day.

Secondly, in having given it such an affecting countenance, that when it looks at any one who might be tempted to injure it, it is almost impossible not to be moved with compassion ; it also sheds tears, and upon the whole persuades one that a creature so defenceless and so abject ought not to be tormented.

To try an experiment with this animal the Provincial had one of them brought to the Jesuit's College at Carthagena. He put a long pole under its feet, which it seized very firmly, and would not let go again. The animal, therefore, thus voluntarily suspended, was placed between two beams, where it remained without food for forty days, its eyes being always fixed on those who looked at it, who were so affected that they could not forbear pitying its dejected state. At length, being taken down, a dog was let loose on it, this, after a while, the Sloth seized in its claws, and held till both died of hunger *.—Linnæus also says of it, “ that its cry is horrible, and its tears piteous †.”

In ascending the trees this animal carelessly stretches one of its four-paws, and fixes its long claw as high as it can reach. It then heavily raises the body, and gradually fixes the other paw : and in this manner continues to climb, every motion being incredibly slow and languid. When the Sloth once gets into a tree, we are told that it will not descend while a leaf or bud is remaining ; and it is added, that in order to save the slow and laborious

* Musurgia, Tom. I. lib. ii. c. 6.

† Linn. Gmel. i. 51.

descent which it would otherwise be obliged to make, it suffers itself to fall to the ground, its tough skin, and thick coarse hair, sufficiently securing it from any unpleasant effect in its fall. Sometimes the Sloths will suspend themselves by their claws from the branches of trees, and thus hanging, a branch may be cut off, and they will fall with it rather than quit their hold *. One that was taken by some person of the expedition under Woodes Rogers, was brought on board one of the vessels, and put down at the lower part of the mizen shrowds. It climbed to the mast-head; occupying two hours, in what a Monkey would have performed in less than half a minute. It proceeded with a very slow and deliberate pace, as if all its movements had been directed by machinery †.

These animals are always most active during the night, at which time they utter their plaintive cry, ascending and descending in perfect tune, through the hexachord, or six successive musical intervals. When the Spaniards first arrived in America, and heard this unusual noise, they fancied they were near some nation, the people of which had been instructed in our music ‡.

When kept in a house the Sloth never rests on the ground, but always climbs on some post or door to repose. If a pole is held out to it, when on the ground, it will immediately lay hold, and, if it is fixed, climb to the top, and firmly adhere to it §.

* Buff. Quad. vii. 164.

† Woodes Rogers, 245. ‡ Kircher's Musurgia. § Buff. vii. 164.

In its general appearance it is extremely uncouth. The body is thick, the fore-legs short, the hinder ones far longer. The feet are very small, but armed with three excessively strong and large claws, of a curved form and sharp-pointed. The head is small, and the face short and naked. The eyes are small, black, and round. The hair on the top of the head projects over, and gives to the animal a very peculiar and grotesque physiognomy. Its general colour is a greyish brown, and the hair is long and coarse, covering the body particularly about the back and thighs, very thickly *.

The female produces one young one, which she frequently carries on her back †.

THE ANT-EATER TRIBE.

THE Ant-eaters, living entirely on insects, have no teeth. Their tongue, which is long, wormlike, and covered with a kind of glutinous moisture, is the only instrument by which they seize their food. Instead of teeth they have, however, certain bones, not unlike teeth, that are situated deep in the mouth, near the entrance of the gullet. The mouths of the whole tribe are lengthened into a somewhat tubular form. The body is covered with hair ‡.

* Shaw, i. 150.

† Buffon,

‡ Linn. Gmel. i. 52,

THE GREAT ANT-EATER*.

The body of the Great Ant-eater is covered with exceedingly coarse and shaggy hair. Its head is very long and slender, and the mouth but just large enough to admit its tongue, near two feet in length, which is cylindrical, and lies folded double within it. The tail is of an enormous size, covered with long black hair, somewhat like that of a horse. With this extraordinary member, when asleep (which is generally in the day-time,) or during a hard shower of rain, the animal covers itself in the manner of a Squirrel; at other times he trails it along, and sweeps the ground †.

This creature is a very bad walker, always resting on the heel of its awkward long feet, but it is able to climb with great ease. Though destitute of teeth, and generally inclined to shun contention, when it is attacked, and its passions become roused, it is a fierce and dangerous adversary. If it can once get its enemy within the grasp of its forepaws, it fixes the claws into his sides, and both fall together; and, as it frequently happens, both perish, for the perseverance of the Ant-eater is so obstinate, that it will not extricate itself even from a dead adversary. Such is its strength, that even the Panthers of America are often unequal to it in combat ‡.

His food consists of Ants, which he takes in the

* SYNONYMS.—*Myrmecophaga Jubata*. *Linm.*—*Tamandua guacu*. *Marcgrave*.—*Tamanoir*. *Buffon*.—Great Ant-eater. *Penn.*—*Shaw's Gen. Zool. pl. 49.*—*Bew. Quad. 459.*

† *Stedman.* ‡ *Penn. Quad. ii. 508.* *Gumilla Orenque, iii. 152.*

following manner :—when he comes to an Ant-hill, he scratches it up with his long claws, and then unfolds his slender tongue, which much resembles an enormously long worm ; this being covered over with a clammy matter or saliva, the Ants get upon it in great numbers, and by drawing it into his mouth, he swallows thousands of them alive ; and he repeats the operation till no more are to be found. He also climbs trees in quest of Wood-lice and wild-honey ; but should he meet with little success in his devastations, he is able to fast for considerable time without the smallest inconvenience. His motions are in general very slow. He swims over great rivers with sufficient ease : on these occasions his tail is always thrown over his back.

It is said that these Ant-eaters are tameable, and that in a domestic state they will pick up crumbs of bread and small pieces of flesh. They are natives of Brazil and Guiana, and are sometimes eight or nine feet in length from the end of the snout to the tip of the tail*. The females bring forth one young one at a time, which does not arrive at maturity till it is four years old.

THE RHINOCEROS TRIBE †.

WE now come to a race of animals of huge size and bulk, inhabitants only of the tropical climates. They are dull and sluggish in their manners, but in

* Stedman.

† This name is derived from *pis* *pnos* nose, and *nosps* a horn.

their disposition sufficiently peaceable, except when attacked or provoked. They have on the nose, a solid, conical horn, not fixed in the bone; this is never shed, but remains, unless broken off by accident, during life *. Their skin is tuberculated and exceedingly hard, but on the under parts of the body sufficiently tender to be cut through with a knife.—The general internal structure of the animals of this tribe corresponds with what is observed in the Horse.

THE SINGLE-HORNED RHINOCEROS †.

The Single-horned Rhinoceros is not exceeded in size by any land animal except the Elephant, and in strength and power it gives place to none. Its length is usually about twelve feet, and this is also nearly the girth of its body.

Its nose is armed with a formidable weapon, a hard and very solid horn, sometimes above three feet in length, and eighteen inches in circumference at the base, with which it is able to defend itself against the attacks of every ferocious animal. The Tiger will rather attack the Elephant than the Rhinoceros, which it cannot face without danger of having its bowels torn out. “With this horn,” says Martial, “it will lift up a Bull like a football ‡.”

* Linn. Gmel. i. 59.

† SYNONYMS.—*Rhinoceros Unicornis*. Linn.—*Rhinoceros*. Buffon. *Parsons*, &c.—*Shaw's Gen. Zool.* pl. 60.—*Bew.* Quad. 156.

‡ Martial, Book i. Epig. 14.

The body and limbs of the Rhinoceros are defended by a skin so hard as to be impenetrable, except in the belly, by either a knife or spear. It is said, that even to shoot a full-grown Rhinoceros of an advanced age, it is necessary to make use of iron bullets, those of lead having been known to flatten against the skin.

The upper lip in this animal seems to answer in some measure the same purpose as the trunk of the Elephant. It protrudes over the lower one in the form of a lengthened tip; and, being extremely pliable, is used in catching hold of the shoots of vegetables, &c. and delivering them into its mouth.

The Rhinoceros is generally of a quiet and inoffensive disposition, but when attacked or provoked, he becomes very furious and dangerous; and he is even sometimes subject to paroxysms of fury, which nothing can assuage.

Dr. Parsons, in the year 1743, published a history of the Rhinoceros, containing a very minute description of one that was brought from Bengal into Europe *. He was only two years old, and the expence of his food and journey amounted to near 1000*l.* sterling. He had every day, at three meals, seven pounds of rice, mixed with three pounds of sugar: besides hay and green plants: he also drank large quantities of water. In his disposition he was very peaceable, readily suffering all parts of his

* The first that was brought into England was in the year 1684.

body to be touched. When he was hungry, or was struck by any person, he became mischievous, and nothing would appease him but food. He was not at this time taller than a young Cow.

A Rhinoceros, brought from Atcham, in the dominions of the King of Ava, was exhibited in 1748, at Paris. It was very tame, gentle, and even caressing; was fed principally on hay and corn, and was much delighted with sharp or prickly plants, and the thorny branches of trees. The attendants frequently gave him branches that had very sharp and strong thorns on them; but he bent and broke them in his mouth without seeming in the least incommoded. It is true they sometimes drew blood from the mouth and tongue, "but that," says Father Le Comte, who gives us the description, "might even render them more palatable, and those little wounds might serve only to cause a sensation similar to that excited by salt, pepper, or mustard, on ours *."

As an equivalent for a very dull sight, Dr. Parsons remarks, that this animal has an acute and most attentive ear. It will listen with a deep and long-continued attention to any kind of noise; and although it be eating, lying down, or obeying any pressing demands of nature, it will raise its head, and listen till the noise ceases.

The Rhinoceros is said to run with great swiftness, and from his strength and impenetrable cover-

ing, is capable of rushing with resistless violence through woods and obstacles of every kind; the smaller trees bending like twigs as he passes them. In his general habits and manner of feeding he resembles the Elephant: residing in cool sequestered spots, near waters, and in shady woods. Like the hog, he delights in occasionally wallowing in the mire *.

The Asiatics sometimes tame and bring these animals into the field of battle, to strike terror into their enemies. They are, however, in general so unmanageable, that they do more harm than good; and in their fury it is not uncommon for them to turn on their masters †.

The skin, which is of a blackish colour, is disposed about the neck into large plaits or folds: a fold of the same kind passes from the shoulders to the fore legs; and another from the hind part of the back to the thighs. It is naked, rough, and covered with a kind of tubercles, or large callous granulations. Between the folds, and under the belly, the skin is soft, and of a light rose-colour. The ears are moderately large, upright, and pointed. The eyes are small, and so placed, that the animal can only see what is nearly in a direct line before him ‡.

The flesh is eaten by the inhabitants of the country. The skin, flesh, hoofs, teeth, and even the dung, are also used medicinally. The horn, when cut through the middle, is said to exhibit on each side, the rude figure of a man; the

* Shaw, i. 200.

† Church.

‡ Shaw, i. 199.

outlines being marked by small white strokes *. Many of the Indian princes drink out of cups made of this horn ; imagining, that when these hold any poisonous draught, the liquor will ferment till it runs quite over the top. Goblets made of the horns of the young, are esteemed the most valuable. Professor Thunberg, when at the Cape, tried these horns, both wrought into goblets and unwrought, both old and young horns, with several sorts of poison, weak as well as strong, but did not observe the least motion or effervescence ; when, however, a solution of corrosive sublimate was poured into one of them, there arose indeed a few bubbles, which were produced by the air that had been inclosed in the pores of the horn, and was now disengaged from it †. Martial informs us, that the Roman ladies of fashion used these horns in the baths, to hold their essence-bottles and oils ‡. The Javanese make shields of the skin.

The Single-horned Rhinoceros is a native of several parts of India ; as well as of the islands of Ceylon, Java, and Sumatra. It is also found in Ethiopia.—The female produces only one young one at a birth.

THE TWO-HORNED RHINOCEROS §.

This species differs from the last, principally in the appearance of its skin ; which, instead of vast and regularly marked armour-like folds, has merely

* Grose, i. 273. † Thunberg, i. 246. ‡ Lib. xiv. Ep. 53.

§ SYNONYMS.—*Rhinoceros Bicornis*. Linn.—*Shaw's Gen. Zool.* pl. 61.—*Bew. uad.* 156.

a very slight wrinkle across the shoulders and on the hinder parts, with a few fainter wrinkles on the sides; so that, in comparison with the common Rhinoceros, it appears almost smooth. What, however, constitutes the principal distinction, is the nose being furnished with two horns, one of which is smaller than the other, and situated above it. These horns are said to be loose when the animal is in a quiet state, but to become firm and immovable when he is enraged*.

In its habits and manner of feeding, this differs but little from the Single-horned Rhinoceros. Le Vaillant says, that when these animals are at rest, they always place themselves in the direction of the wind, with their noses towards it, in order to discover by their smell the approach of any enemies. From time to time, however, they move their heads round to look behind them, and to be assured that they are safe on all sides; but they soon return to their former position†. When they are irritated they tear up the ground with their horn; throwing the earth and stones furiously, and to a vast distance, over their heads.

Mr. Bruce's description of the manners of the Two-horned Rhinoceros, is deserving of particular notice. He informs us that, "besides the trees capable of most resistance, there are, in the vast forests within the rains, trees of a softer consistence, and of a very succulent quality, which seem to be

* Shaw, i. 202.

† New Travels in Africa, iii. 42.

destined for the principal food of this animal. For the purpose of gaining the highest branches of these, his upper lip is capable of being lengthened out so as to increase his power of laying hold with it, in the same manner as the Elephant does with his trunk. With this lip, and the assistance of his tongue, he pulls down the upper branches, which have most leaves, and these he devours first. Having stripped the tree of its branches, he does not immediately abandon it; but, placing his snout as low in the trunk as he finds his horns will enter, he rips up the body of the tree, and reduces it to thin pieces like so many laths; and when he has thus prepared it, he embraces as much of it as he can in his monstrous jaws, and twists it round with as much ease as an ox would do a root of celery, or any small plant.

“ When pursued, and in fear, he possesses an astonishing degree of swiftness, considering his size, the apparent unwieldiness of his body, his great weight before, and the shortness of his legs. He has a kind of trot, which, after a few minutes, increases in a great proportion, and takes in a great distance; but this is to be understood with a degree of moderation. It is not true that in a plain he beats the Horse in swiftness. I have passed him with ease, and seen many, worse mounted, do the same; and though it is certainly true that a horse can very seldom come up with him, this is owing to his cunning, and not to his swiftness. He makes constantly from wood to wood, and forces himself into the thickest parts of them. The trees that are dead or dry, are broken down, as with a cannon shot, and

fall behind him and on his side in all directions. Others that are more pliable, greener, or fuller of sap, are bent back by his weight, and the velocity of his motions. And after he has passed, restoring themselves like a green branch to their natural position, they often sweep the incautious pursuer and his horse from the ground, and dash them in pieces against the surrounding trees.

“The eyes of the Rhinoceros are very small; he seldom turns his head, and therefore sees nothing but what is before him*. To this he owes his death, and never escapes if there is so much plain as to enable the Horse to get before him. His pride and fury then make him lay aside all thoughts of escaping, but by victory over his enemy. He stands for a moment at bay : then, at a start, runs straight forward at the Horse, like the Wild Boar, which, in his manner of action, he very much resembles. The Horse easily avoids him by turning short to one side ; and this is the fatal instant : the naked man, with the sword, drops from behind the principal horseman, and, unseen by the Rhinoceros, who is seeking his enemy, the Horse, he gives him a stroke across the tendon of the heel. which renders him incapable of further flight or resistance.

“In speaking of the great quantity of food necessary to support this enormous mass, we must

* The account of Mr. Bruce differs in this particular from that of M. Vaillant, before quoted ; and it is impossible for me to say which of the two is nearest the truth.

likewise consider the vast quantity of water which he needs. No country but that of Shangalla, which he possesses, deluged with six months rain, and full of large and deep basons, made in the living rock, and shaded by dark woods from evaporation, or watered by large and deep rivers which never fall low or to a state of dryness, can supply the vast draughts of this monstrous creature : but it is not for drinking alone that he frequents wet and marshy places ; large, fierce, and strong as he is, he must submit to prepare himself against the weakest of his adversaries. The great consumption he constantly makes of food and water, necessarily confines him to certain limited spaces ; for it is not every place that can maintain him ; he cannot emigrate or seek his defence among the sands of Atbara *."

—His adversary is a Fly (probably of the Linnæan genus *astrus*) which is bred in the black earth of the marshes. It persecutes him so unremittingly, that it would in a short time subdue him, but for a stratagem which he practises for his preservation. In the night when the Fly is at rest, the Rhinoceros chuses a convenient place, and there rolling in the mud, clothes himself with a kind of case, which defends him against his adversary the following day, The wrinkles and plaits of his skin serve to keep this muddy plaster firm upon him, all but about his hips shoulders, and legs, where it cracks and falls off, by motion, and leaves him exposed in those parts to the attacks of the Fly. The itching

* Travels to discover the Source of the Nile,

and pain which follow, occasion him to rub himself in those parts against the roughest trees ; and this is one cause of the numerous pustules or tubercles that we see upon him.

He enjoys so much the rubbing himself, that he groans and grunts so loud during this action, as to be heard at a considerable distance. The pleasure he receives from this employment, and the darkness of the night, deprive him of his usual vigilance and attention. The hunters, guided by his noise, steal secretly upon him ; and while lying on the ground, wound him with their javelins ; mostly in the belly, where the wound is mortal.

It is by no means true that the skin of this Rhinoceros, as it has been often represented, is hard or impenetrable like a board. In his wild state he is slain by javelins thrown from the hand, some of which enter his body to a great depth. A musket-shot will go through him, unless interrupted by a bone ; and the Shangalla, an Abyssinian tribe, kill him by the clumsiest arrows that ever were used by any people practising that weapon, and cut him to pieces afterwards with the very worst of knives.

In order to afford some idea of the enormous strength of the Rhinoceros, even after being severely wounded, I shall quote Mr. Bruce's account of the hunting of this animal in Abyssinia : " We were on horseback (says this gentleman) by the dawn of day, in search of the Rhinoceros, many of which we had heard making a very deep groan and cry as the morning approached ; several of the

Agageers (hunters) then joined us : and after we had searched about an hour in the very thickest part of the wood, one of them rushed out with great violence, crossing the plain towards a wood of canes that was about two miles distant. But though he ran, or rather trotted with surprising speed, considering his bulk, he was, in a very little time, transfixed with thirty or forty javelins; which so confounded him, that he left his purpose of going to the wood, and ran into a deep hole, ditch, or ravine, a *cul de sac*, without outlet, breaking above a dozen of the javelins as he entered. Here we thought he was caught as in a trap, for he had scarcely room to turn; when a servant, who had a gun, standing directly over him, fired at his head, and the animal fell immediately, to all appearance dead. All those on foot now jumped in with their knives to cut him up; but they had scarcely begun, when the animal recovered so far as to rise upon his knees: happy then was the man that escaped first; and had not one of the Agageers, who was himself engaged in the ravine, cut the sinew of the hind leg as he was retreating, there would have been a very sorrowful account of the foot-hunters that day.

“ After having dispatched him, I was curious to see what wound the shot had given, which had operated so violently upon so huge an animal; and I doubted not it was in the brain. But it had struck no where but upon the point of the foremost horn, of which it had carried off above an inch: and this occasioned a concussion that had stunned

him for a minute, till the bleeding had recovered him."

It has been often asserted that the tongue of the Rhinoceros is so hard and rough, as to take away the skin and flesh wherever it licks any person that has unfortunately fallen a victim to its fury *. Dr. Sparrman says, however, that he thrust his hand into the mouth of one that had just been shot, and found the tongue perfectly soft and smooth.—The cavity which contained the brain of one of these huge animals, was only six inches long and four deep; and, being filled with pease, was found to hold barely a quart; while a human skull, measured at the same time, took above two quarts to fill it.

The Hottentots, and even some of the inhabitants of the Cape, set a high value on the dried blood of the Rhinoceros, to which they ascribe great virtues in the cure of many disorders of the body. The flesh is eatable, but it is very full of sinews.

THE ELEPHANT TRIBE.

THESE animals have no front teeth in either jaw; and from the upper jaw proceed two long and stout tusks, which, in a state of nature, are used in tearing up trees for food, and as weapons of defence against their enemies. They have a long, cartilaginous, prehensile trunk, which is ca-

* Kolben, ii. 103.

pable of laying hold even of the most minute substances. Their body is very thinly scattered over with hairs.—No more than *one* species has hitherto been discovered.

THE ELEPHANT *.

There is scarcely any animal in the Creation that has at different times occupied so much the attention of mankind as the Elephant. Formed in a very particular manner for the service of man in the hot climates, it is endowed with every requisite to usefulness. It is strong, active, and laborious; replete with mildness and sagacity. Docile in a very eminent degree, it may be trained to almost any service that a brute is capable of performing.

Elephants are found wild in the shady woods of Asia and Africa, where they generally live in large troops. They feed on vegetables; the young shoots of trees, grains, and fruit of various kinds. Their incursions are much dreaded in plantations, where they frequently commit the most extensive ravages; at the same time also materially injuring the crops, by trampling the ground with their vast feet.

The skin of the Elephant is generally of a deep ash-coloured brown, approaching to black. The tusks are not visible in a young animal, but in its more advanced state of growth they are eminently

* SYNONYMS.—*Elephas maximus*. Linn.—Elephant. Smellie.—*Elephantus*. Buffon.—Shaw's *Gen. Zool.* pl. 63. 64.—Bew. *Quad.* p. 166.

conspicuous ; and in the full-grown animal they measure sometimes so much as ten feet from their sockets *. It is but rarely that they are seen in the females ; and when they appear they are but small, and their direction is somewhat downwards.

This is undoubtedly the largest of all terrestrial animals, arriving sometimes at the height of twelve feet ; though the more general height seems to be from nine to ten. It is said to live to the age of a hundred, or a hundred and twenty, years.—The female seldom produces more than one at a birth. This, when first born, is about three feet high, and continues growing till it is sixteen or eighteen years old. The teats of the female are two, seated at a small distance behind the fore-legs.

The eyes are extremely small ; and the ears very large and pendulous. The form indeed of the whole animal is very awkward : the head is large ; the body large ; the back much arched ; the legs extremely thick, and very short ; and the feet slightly divided into, or rather edged with, five rounded hoofs. The tail is terminated by a few scattered, very thick, black hairs.

In the structure of the Elephant, the most singular organ is the trunk or proboscis. This is an extension of the canals of the nose : it is very long, composed of a great number of cartilaginous rings,

* The largest tusks imported into England measure seven feet in length, and weigh about 150lb. each. There is one in the Leverian Museum about eight feet long, which however weighs only 113lb.

and is through its whole length divided by a continuation of the septum. At the lower end it is furnished with a kind of moveable finger, that seems to divide its aperture into two parts. It is so strong as to be capable of breaking off large branches from trees. Through this the animal smells and breathes; and it is possessed of such exquisite sensibility that he can pick up with it almost the smallest bodies from the ground. By means of this the Elephant conveys the food to its mouth; which is situated so much in the under part of its head, as to seem almost a part of the breast. The sense of smelling he enjoys in great perfection: and when a number of people are standing around him, he will discover food in the pocket of any one, and take it out by means of his trunk with great dexterity *. With this he can untie the knots of ropes, and open and shut gates by turning the keys or pushing back the bolts. It is, in short, as complete an instrument as nature has bestowed on even her most favorite productions †.

The skin of this animal, where it is not callous, is extremely sensible. In the fissures and other places where it is moist and soft, he feels the stinging of flies in such a lively manner, that he not

* Church.

† Elephants are said to be exceedingly afraid of Mice, lest they should get through the trunk into their lungs, and thus stifle them: and, therefore, sleep with the end of the proboscis so close to the ground, that nothing but air can get in between.—*Ray's Wisdom of God in the Works of the Creation*, p. 384.

only employs his natural motions, but even the resources of his intelligence, to rid himself of them. He strikes them with his tail, his ears, and his trunk. He contracts his skin, and crushes them between its wrinkles. He drives them off with branches of trees, or bundles of long straw. When all these artifices are unsuccessful, he collects dust with his trunk, and covers all the more tender parts of his skin with it. He has been observed dusting himself in this manner several times in a day; and always at the most proper season, namely, after bathing*.

The disposition of these animals is gentle, and their manners social, for they are seldom seen wandering alone. They generally march in troops, the oldest keeping foremost, and the next in age bringing up the rear. The young and the feeble occupy the middle. The mothers carry their young firmly embraced in their trunks. They do not, however, observe this order, except in perilous marches, when they want to pasture on cultivated fields. In the deserts and forests, they travel with less precaution, but without separating so far as to exceed the possibility of receiving assistance from one another.

The wild Elephants of Ceylon live in troops or families, distinct and separate from all others, and seem to avoid the strange herds with particular care. When a family removes from place to place, the largest-tusked males put themselves at the head;

and if they come to a river, are the first to pass it. On arriving at the opposite bank, they try whether the landing-place is safe : if it is, they give a signal with their trunk, on which another division of the old Elephants swim over ; the younger then follow, holding one another by locking their trunks together ; and the rest of the old ones bring up the rear*.

As the modes of taking this animal, and rendering it submissive to human authority, merit particular attention, I shall, in a cursory manner, describe those pursued by the inhabitants of a few of the different countries of the East.

At Tepura, in the East Indies, the manner of securing a single male, is very different from that employed in taking a herd. In the former case, which I shall first mention, the animal is taken by means of Koomkees, or female Elephants, trained for the purpose ; whereas in the latter case they are driven into a strong inclosure.

As the hunters know the places where the Elephants come out to feed, they advance towards them in the evening with four Koomkees, the number of which each hunting party consists. When the nights are dark, the male Elephants are discovered by the noise they make in cleaning their food, which they do by whisking and striking it against their fore-legs ; and in the moon-light nights may to be seen distinctly at some distance.

* Penn. Quad. i. 152.

As soon as the hunters have determined on the animal they mean to secure, three of the Koomkees are conducted silently and slowly, at a little distance from each other, near to the place where he is feeding. The Koomkees advance very cautiously, feeding as they go long, and appear like wild Elephants that have strayed from the forest. When the male perceives them approaching, if he takes the alarm, and is viciously inclined, he beats the ground with his trunk, and makes a noise, shewing evident marks of his displeasure, and that he will not allow them to approach nearer. In this case, if they persist he will immediately attack and gore them with his tusks; for which reason they take care to retreat in good time. He, however, generally allows them to approach, and sometimes even advances to meet him.

The drivers now conduct two of the females, one on each side, close to him, and make them press themselves gently against his neck and shoulders; the third female then comes up, and places herself directly across his tail. In this situation, far from suspecting any design against his liberty, he begins to toy with the females, and caresses them with his trunk. While thus engaged, the fourth female is brought near attended by proper assistants furnished with ropes, who immediately get under the belly of the animal at the tail, and put a slight rope round his hind legs. If he takes no notice of this slight confinement, the hunters proceed to tie his legs with a stronger rope; which is passed alternately, by means of a forked stick, and a kind of hook, from one leg to the other,

in the form of a figure of 8. Six or eight of these ropes are generally employed, one above another; and they are fastened at their intersections by another rope, that is made to pass perpendicularly up and down. A strong cable, with a running noose, sixty cubits long, is next put round each hind leg, above the other ropes; and afterwards six or eight other ropes are crossed from leg to leg above the cable. The fixing these ropes usually occupies about twenty minutes, during which time the utmost silence is observed.

When thus properly secured, the animal is left to himself, the Koonkees retiring to a little distance. In attempting to follow them, he finds his legs tied; and becoming sensible of the danger of his situation, immediately retreats towards the jungle. The drivers, mounted on the tame Elephants, accompanied by a number of people, who till this time have been kept out of sight, follow him at a little distance; and as soon as he passes near a tree sufficiently stout to hold him, they take a few turns with the long cables which trailed behind him, round his trunk. His progress being thus stopped, he becomes furious, and exerts his utmost efforts to disengage himself. The Koonkees dare not now come near him: and in his fury he falls down on the earth, and tears it up with his tusks. In these exertions he sometimes breaks the cables, and escapes into the thick jungle. Either the drivers cannot advance, for fear of the other wild Elephants; and are therefore obliged to leave him to his fate. But as the cables are strong, and very seldom give way, when he has exhausted

himself by his exertions the Koomkees are again brought near and take their former positions, one on each side and the other behind. After getting him nearer the tree, the people carry the ends of the long cables two or three times round it, so as to prevent the possibility of his escape. His fore-legs are now tied in the same manner as his hind-legs were; and the cables are made fast, one on each side, to trees or stakes driven deep into the earth.

When he has become more settled, and will eat a little food, with which he is supplied as soon as he is taken, the Koomkees are again brought near, and a strong rope is then put twice round his body, close to his fore-legs, like a girth, and tied behind his shoulder; then the end is carried backward close to his rump, and there fastened, after a couple of turns more have been made round his body. Another rope is next fastened to this, and thence carried under his tail like a crupper, and brought forward and fastened to each of the girths. A strong rope is now put round his buttocks, and made fast on each side to the girth and crupper; so as to confine the motion of his thighs, and prevent him from taking a full step. A couple of large cables, with running nooses, are now put about his neck, there secured, and tied to the ropes on each side. Thus completely hampered, the cables round his neck are made fast to two Koomkees, one on each side.

Every thing being now ready, and a passage cleared from the jungle, all the ropes are taken from his legs, except the strong one round his buttocks to confine the motion of his hind-legs, which

is still left. The Koomkees pull him forward ; sometimes, however, not without much struggling and violence on his part. When brought to his proper station, and made fast, he is treated with a mixture of severity and gentleness ; and generally in a few months becomes tractable, and appears perfectly reconciled to his fate.—It seems somewhat extraordinary, that though the animal uses his utmost force to disengage himself when taken, and would kill any person coming within his reach, yet he seldom or never attempts to hurt the females that have ensnared him ; but, on the contrary, seems (as often as they are brought near, in order to adjust his harnessing, or move and slacken those ropes which gall him) pleased, soothed, and consoled by them, as it were, for the loss of his liberty.

The mode of securing a herd of wild Elephants, is very different from that adopted in taking a single male, and the process is much more tedious.

When a herd, which generally consists of from about forty to a hundred, is discovered, about five hundred people are employed to surround it. By means of fire and noises, they in the course of some days are able to drive them to the place where they are to be secured. This is called the Keddah. It consists of three inclosures, communicating with each other by means of narrow openings or gateways. The outer one is the largest, the middle generally the next in size, and the third or furthestmost the smallest. When the animals arrive near the first inclosure, (the palisades and two gates of which are as much as possible disguised with branches of

trees and bamboos stuck in the ground, so as to give them the appearance of a natural jungle,) great difficulty attends the business of getting them in. The leader always suspects some snare, and it is not without the utmost hesitation that he passes; but as soon as he enters, all the rest implicitly follow. Immediately, when they have passed the gateway, fires are lighted round the greatest part of the inclosure, and particularly at the entries, to prevent the Elephants from returning. The hunters from without then make a terrible noise by shouting, beating of tom-toms (a kind of drum), firing blank-cartridges, &c. to urge them on to the next inclosure. The Elephants, finding themselves entrapped, scream and make other noises; and discovering no opening except the entrance to the next inclosure, they at length, but not before they have many times traversed round their present situation, following their leader, enter it. The gate is instantly shut upon them, fires are lighted, and the same discordant noises made as before, till they have passed through another gateway into the last inclosure, where they are secured in a similar manner. Being now completely surrounded on all sides, and perceiving no outlet through which they can escape, they appear desperate, and in their fury advance frequently to the surrounding ditch in order to break down the palisade, inflating their trunks, and screaming out aloud: but wherever they make an attack, they are opposed by lighted fires, and by the noise and triumphant shouts of the hunters. The ditch is then filled with water; and after a while they have recourse to it in order to

quench their thirst and cool themselves, which they do by drawing the water into their trunks, and then squirting it over every part of their bodies.

When the Elephants have continued in the inclosure a few days, where they are regularly, though scantily, fed from a scaffold on the outside, the door of the Roomee (an outlet about sixty feet long and very narrow) is opened, and one of the Elephants is enticed to enter by having food thrown before it*. When the animal has advanced far enough to allow it, the gate is shut and well secured on both sides. Finding his retreat now cut off, and the place so narrow that he cannot turn himself, he advances, and exerts his utmost efforts to break down the bars in front of him, running against them, screaming and roaring most violently, and battering them, like a ram, by repeated blows with his head, retreating and advancing with the utmost fury. In his rage he even rises up, and leaps upon the bars with his fore-feet, striving to break them down with his huge weight. When he becomes somewhat fatigued with these exertions, ropes are, by degrees, put round him; and he is secured in a manner nearly similar to that adopted in taking the single males. And thus, in succession, they are all secured.

The Elephants are now separated, and each put

* In many places this mode is not adopted; but as soon as the herd has been surrounded by a strong palisade, Koomkees are sent in with proper people, who tie them on the spot, in the manner we have mentioned respecting the single male Elephants.

under the care of a keeper, who is appointed to attend and instruct him. Under this man there are three or four others, who assist in supplying food and water till the animal becomes sufficiently tractable to feed himself. A variety of soothing and caressing arts are practised : sometimes the keeper threatens, and even goads him with a long stick pointed with iron ; but more generally coaxes and flatters him, scratching his head and trunk with a long bamboo split at one end into many pieces, and driving away the flies from his sores and bruises. In order to keep him cool, he likewise squirts water all over him ; carefully standing out of the reach of his trunk.

In a few days he advances cautiously to his side, and strokes and pats him with his hand, at the same time speaking to him in a soothing voice ; and after a little while, the beast begins to know his keeper and obey his commands. By degrees the latter becomes familiar, and at length mounts upon his back from one of the tame Elephants ; from hence he gradually increases the intimacy as the animal becomes more tame, till at last he is permitted to seat himself on his neck, from which place he is afterwards to regulate and direct all his motions. While they are training in this manner, the tame Elephants lead the others out alternately, for the sake of exercise ; and likewise to ease their legs from the cords with which they are tied, and which are apt to gall them, unless they are regularly slackened and shifted.

In five or six weeks the Elephant becomes obedient to his keeper, his fetters are taken off by degrees, and generally in about six months he suffers

himself to be conducted from one place to another. Care, however, is always taken not to let him approach his former haunts, lest a recollection of them should induce him to attempt to recover his liberty*.

The following is Mr. Bruce's account of Elephant-hunting in Abyssinia. The men who make the hunting of Elephants their business, he says, dwell constantly in the woods, living entirely upon the flesh of the animals they kill, which is chiefly that of the Elephant or Rhinoceros. They are exceedingly thin, light, and agile both on horse-back and foot. They are called Agageers; a name derived from the word Agar, which signifies to hough or ham-string with a sharp weapon. More properly it means, indeed, the cutting of the tendon of the heel; and is a characteristic of the manner in which they kill the Elephant, which is thus:—Two men, quite naked to prevent their being laid hold of by the trees or bushes in making their escape from this very watchful enemy, get on horse-back. One of them sits on the back of the horse, sometimes with a saddle, and sometimes without one, with only a switch or short stick in one hand, carefully managing the bridle with the other; behind him sits his companion, armed only with a broadsword. His left hand is employed in grasping the sword by the handle; about fourteen inches of the

* See a paper of John Corse, esq. on the method of catching wild Elephants at Tipura in the East Indies, inserted in the Asiatic Researches.

blade of which are covered with whip-cord. This part he takes in his right hand, without any danger of being hurt by it; and, though the edges of the lower part of the sword are as sharp as a razor, he carries it without a scabbard.

As soon as an Elephant is found feeding, the horseman rides before him, as near to his face as possible; or, if he tries to escape, crosses him in all directions, calling out, "I am such a one, and such a one, this is my horse, that has such a name; I killed your father in such a place, and your grandfather in such another place, and I am now come to kill you, who are nothing in comparison with them." This nonsense he believes the Elephant perfectly to understand; who, chafed and angry at hearing the noise immediately before him, attempts to seize him with his trunk; and, intent upon this, follows the horse every where, turning round and round with him, neglecting to make his escape by running straight forward, in which consists his only safety. After having made him turn a few times in pursuit of the horse, the horseman rides close up beside of him, and drops his companion just behind, on the off side; and while he engages the Elephant's attention upon the horse, the other behind gives him a drawn stroke just above the heel, into what in man is called the tendon of Achilles. This is the critical moment; the horseman immediately wheels round, again takes his companion up behind him, and rides off at full speed after the rest of the herd, if they have started more than one; and sometimes an expert Agageer will kill three out

of one herd. If the sword is good, and the man not too timid, the tendon is in common entirely separated; and, if not cut through, is generally so far divided that the animal, with the stress he puts upon it, breaks the remaining part asunder. In either case, he remains incapable of advancing a step, till the horseman returning, or his companions coming up, pierce him through with javelins and lances; he then falls to the ground, and expires from loss of blood.—The Elephant being slain, they cut his flesh into thongs, like the reins of a bridle, and hang these, like festoons, upon the branches of trees till they become perfectly dry, without salt, and then lay them by for their provision in the season of the rains.

In one of these Elephant-huntings, Mr. Bruce mentions a striking instance of affection in a young one to its mother: “There now remained (says he) but two Elephants of those that had been discovered; which were a she one with a calf. The Agageer would willingly have let these alone, as the teeth of the female are very small, and the young one is of no sort of value whatever. But the hunters would not be limited in their sport. The people having observed the place of her retreat, thither we eagerly followed. She was very soon found, and as soon lamed by the Agageers; but when they came to wound her with their darts, as every one did in their turn, to our very great surprise, the young one, which had been suffered to escape unheeded and unpursued, rushed out from the thicket, apparently in great anger, and ran upon

the horses and men with all the violence it was master of. I was amazed, and as much as ever I was upon such an occasion, afflicted, at seeing the affection of the little animal in defending its wounded mother, heedless of its own life or safety. I therefore cried to them, for God's sake to spare the mother, but it was then too late; and the calf had made several rude attacks upon me, which I avoided without difficulty; but I am happy to this day, in the reflection that I did not strike it. At last, making one of its attacks upon *Ayton Egedan* (another of the party,) it hurt him a little on the leg; on which he thrust it through with his lance, as others did after, and it then fell dead before its wounded mother, whom it had so affectionately defended. It was about the size of an ass, but round, big-bellied, and heavily made; and was so furious and unruly, that it would easily have broken the leg of a man or a horse, could it have overtaken, and jostled against them properly."

In some parts of the East the Elephants are taken by means of pit-falls. Through the woody forests several paths are cut; in these are dug deep and large holes, which are carefully covered over with branches and loose earth.

On distant Ethiopia's sun-burnt coasts,
 The black inhabitants a pit-fall frame;
 With slender poles the wide capacious mouth,
 And hurdles light, they close; o'er these is spread
 A floor of verdant turf, with all its flow'rs
 Smiling delusive, and from strictest search
 Concealing the deep grave that yawns below.

Then boughs of trees they cut, with tempting fruit
Of various kinds surcharg'd; the downy peach,
The clust'ring vine, and of bright golden rind
The fragrant orange. Soon as ev'ning grey
Advances, slow besprinkling all around
With kind refreshing dews the thirsty glebe,
'The stately Elephant from the close shade
With step majestic strides; eager to taste
The cooler breeze that from the sea-beat shore
Delightful breathes, or in the limpid stream
To lave his panting sides; joyous he scents
The rich repast, unweeting of the death
That lurks within. And soon he sporting breaks
The brittle boughs, and greedily devours
The fruit delicious.---Ah! too dearly bought;
The price is life. For now the treach'rous turf
Trembling gives way; and the unwieldy beast,
Self-sinking, drops into the dark profound.

When the hunters have sufficiently secured the animals with strong ropes tied round their limbs, they are dragged out and taken home to be tamed. Of their mode of performing this I shall give the account of Tavernier, from his *Travels in India*, who tells us that he was himself present at the taming of two that had been taken not long before. "After two hours travel, we came to a great village, where we saw the two Elephants that had been lately taken. Each of these was placed between two tame ones. Round the wild Elephants stood six men, each with a half-pike in his hand, with a lighted torch fastened at the end of it, who talked to the animals, giving them meat, and calling to them in their own language '*take it, take it.*' If the

wild Elephants refused to do as they were bid, the men made signs to the tame ones to beat them; which they did thus : one of them banged the refractory Elephant about the head with his trunk, and if he offered to make any resistance, the other thwacked him on the other side ; so that the poor animal, not knowing what to do, was at length constrained to become obedient *."

It has been stated, that the sagacity of the Elephant is so great, and his memory so retentive, that when once he has received an injury, or been in bondage and afterwards escaped, it is not possible, by any art, again to entrap him. The following instances recorded in the Philosophical Transactions for 1799, will prove however that this is not the fact :—

" A female Elephant was first taken in the year 1765, by Rajah *Kishun Maunick*, who, about six months after, gave her to *Abdoor Resah*, a man of some rank and consequence in the district. In 1767, the Rajah sent a force against this *Abdoor Resah*, for some refractory conduct, who, in his retreat to the hills, turned the above mentioned beast loose into the woods, after having used her above two years as a riding Elephant. She was afterwards retaken ; but broke loose in a stormy night, and again escaped. In the year 1782, above ten years after her second escape, she was driven by the Elephant-hunters belonging to Mr. Lecke, of Longford-hall, in Shropshire, into

* A mode of taming Elephants somewhat similar to this, is now practised in the island of Ceylon. *Thunberg*, iv. 242.

the inclosure in which the Elephants are secured ; and the day following, when Mr. Lecke went to see the herd that had been taken, this Elephant was pointed out to him by the hunters, who well recollected her. They frequently called to her by name ; to which she seemed to pay some attention, by immediately looking towards them when it was repeated ; nor did she appear like the wild Elephants, who were constantly running about the inclosure in a rage, but seemed perfectly reconciled to her situation.

“ For the space of eighteen days, she never went near enough the outlet to be secured ; from a recollection perhaps of what she had twice before suffered *. Mr. Lecke, at length, went himself, when there were only herself, another female, and eight young ones remaining in the inclosure. After the other female had been secured, by means of the trained female Elephants, called *Koomkees*, sent in for that purpose, the hunters were ordered to call on her by her name. She immediately came to the side of the ditch, within the inclosure ; on which some of the drivers were desired to carry in a plantain tree, the leaves of which she not only took from their hands with her trunk, but opened her mouth for them to put a leaf into it, which they did, stroking and caressing her, and calling to her by name. One of the trained Elephants was now ordered to be brought to her, and the driver to take her by the

* When Elephants are secured in the outlet from the inclosure, they bruise themselves terribly.

ear and order her to lie down. At first she did not like the *Koomkee* to go near her, and retired to a distance, seeming angry; but, when the drivers, who were on foot, called to her, she came immediately and allowed them to stroke and caress her as before; and in a few minutes after, permitted the trained Elephants to be familiar. A driver from one of these then fastened a rope round her body, and instantly jumped on her back, which, at the moment, she did not like, but was soon reconciled to it. A small cord was then put round her neck, for the driver to put his feet in; who seating himself on the neck, in the usual manner, drove her about the inclosure, in the same manner as any of the tame Elephants.—After this he ordered her to lie down, which she instantly did; nor did she rise till she was desired. He fed her from his seat, gave her his stick to hold, which she took with her trunk, and put into her mouth, kept, and then returned it as she was directed, and as she had formerly been accustomed to do. In short, she was so obedient, that had there been more wild Elephants in the inclosure, she would have been useful in securing them.

“ In June 1787, a male Elephant, taken the year before, was travelling, in company with some others, towards Chittigong, laden with baggage; and having come upon a Tiger's track, which Elephants discover readily by the smell, he took fright and ran off to the woods, in spite of all the efforts of his driver. On entering the wood, the driver saved himself by springing from the animal and clinging

to the branch of a tree under which he was passing. When the Elephant had got rid of his driver, he soon contrived to shake off his load. As soon as he ran away, a trained female was dispatched after him, but could not get up in time to prevent his escape.

“Eighteen months after this, when a herd of Elephants had been taken, and had remained several days in the inclosure, till they were enticed into the outlet, there tied, and led out in the usual manner, one of the drivers, viewing a male Elephant very attentively, declared he resembled the one which had run away. This excited the curiosity of every one to go and look at him; but, when any person came near, the animal struck at him with his trunk, and in every respect appeared as wild and outrageous as any of the other Elephants.—An old hunter at length coming up and examining him, declared that he was the very Elephant that had made his escape.

“Confident of this, he boldly rode up to him on a tame Elephant, and ordered him to lie down, pulling him by the ear at the same time. The animal seemed taken by surprize, and instantly obeyed the word of command, uttering at the same time a peculiar shrill squeak through his trunk, as he had formerly been known to do; by which he was immediately recognized by every person who was acquainted with this peculiarity.”

Thus we see that this Elephant, for the space of eight or ten days, during which he was in the inclosure, appeared equally wild and fierce with the boldest Elephant then taken; but the moment he

was addressed in a commanding tone, the recollection of his former obedience seemed to rush upon him at once; and, without any difficulty, he permitted a driver to be seated on his neck, who in a few days made him as tractable as ever.

“ A female Elephant, belonging to a gentleman at Calcutta, being ordered from the upper country to Chotygoné, by chance broke loose from her keeper, and was lost in the woods. The excuses which the keeper made were not admitted. It was supposed that he had sold the Elephant; his wife and family therefore were sold for slaves, and he was himself condemned to work upon the roads. About twelve years afterwards this man was ordered up into the country to assist in catching the wild Elephants. The keeper fancied he saw his long-lost Elephant in a group that was before them. He was determined to go up to it; nor could the strongest representations of the great danger dissuade him from his purpose. When he approached the creature, she knew him; and giving him three salutes, by waving her trunk in the air, knelt down and received him on her back. She afterwards assisted in securing the other Elephants, and likewise brought with her three young ones, which she had produced during her absence. The keeper recovered his character; and as a recompence for his sufferings and intrepidity, had an annuity settled on him for life. This Elephant was afterwards in the possession of Governor Hastings.”

These and several other instances that have occurred, clearly evince, that Elephants have not the

sagacity to avoid a snare into which they have, even more than once, fallen.

The Elephant, when tamed, becomes the most gentle and most obedient of all domestic animals. He is so fond of his keeper, that he carresses him, and anticipates his commands. He soon learns to comprehend signs, and even to understand the expression of sounds. He distinguishes the tones of command, of anger, or of approbation, and regulates his actions accordingly. He never mistakes the voice of his master. He receives his orders with attention, executes them with prudence and eagerness, but without any degree of precipitation; for his movements are always measured, and his character seems to partake of the gravity of his bulk. He easily learns to bend his knees for the accomodation of those who mount him. His friends he caresses with his trunk; salutes with it such people as are pointed out to him, uses it for raising burthens, and assists in loading himself. He allows himself to be clothed, and seems to have a pleasure in being covered with gilded harness and brilliant housings. He is employed in drawing chariots, ploughs, waggons, &c. He draws steadily, and never turns restive, provided he is not insulted with improper chastisement, and that the people who labour with him have the air of being pleased with the manner in which he employs his strength. The man who conducts him, generally rides on his neck, and uses an iron rod, hooked at the end, or having there a kind of bodkin, with which he pricks the head or

sides of the ears, in order to urge him forward or to turn him. But words are generally sufficient; especially if the animal has had time to acquire a complete acquaintance with his conductor, and to put entire confidence in him. The attachment of the Elephant becomes sometimes so strong, and his affection so warm and durable, that he has been known to die of sorrow, when, in a paroxysm of rage, he had killed his guide.

The domestic Elephant performs more work than perhaps six horses; but he requires from his master much care, and a great quantity of good victuals. He is generally fed with rice, raw or boiled, and mixed with water. To keep him in full vigour, he is said to require daily a hundred pounds weight of this food; besides fresh herbage to cool him, for he is subject to be over-heated, and must be led to the water twice or thrice a-day for the purpose of bathing. He sucks up water in his trunk, carries it to his mouth, drinks part of it, and, by elevating his trunk, allows the remainder to run over every part his body. His daily consumption of water for drink, has been calculated at forty-five gallons*.

To give an idea of the labour which he performs, it is sufficient to remark, that all the tuns, sacks, and bales, transported from one place to another in India, are carried by Elephants; that they carry burthens on their bodies, their necks, their tusks, —and even in their mouths, by giving them the end

* Thunberg, iv. 244.

of a rope, which they hold fast with their teeth ; that, uniting sagacity to strength, they never break or injure any thing committed to their charge ; that, from the banks of the rivers, they put these bundles into boats without wetting them, laying them down gently, and arranging them where they ought to be placed ; that, when disposed in the places where their masters direct, they try with their trunks whether the goods are properly stowed ; and, if a tun or cask rolls, they go, of their own accord, in quest of stones to prop, and render it firm.

M. Phillipe was an eye-witness to the following facts :—He one day went to the river at Goa, near which place a great ship was building. Here was a large area filled with beams for that purpose. Some men tied the ends of heavy beams with a rope, which was handed to an Elephant, who carried it to his mouth, and after twisting it round his trunk, drew it, without any conductor, to the place where the ship was building. One of the Elephants sometimes drew beams so large, that more than twenty men would have been necessary to move them. But what surprised this gentleman still more was, that when other beams obstructed the road, he elevated the ends of his own beam, that it might run easily over those which lay in his way. Could the most enlightened man have done more *?

At Mahie, on the coast of Malabar, M. Toreen tells us, he had an opportunity of admiring the

* Voyage du M. Phillipe, quoted in Buff. Quad.

sagacity of an Elephant. Its master had let it for a certain sum *per* day; and its employment was to carry with its trunk, timber for a building out of the river: which business it dispatched very dexterously, under the command of a boy; and afterwards laid the pieces one upon another, in such exact order, that no man could have done it better *.

Elephants not only obey the voice of their keeper when present; but some, even in his absence, will perform extraordinary tasks which have been previously explained to them. "I have seen two," says M. D'Obsonville, "occupied in beating down a wall; which their *Cornacs* had desired them to do, and encouraged them by a promise of fruits and brandy. They combined their efforts; and doubling up their trunks, which were guarded from injury by leather, thrust against the strongest part of the wall; and by reiterated shocks continued their efforts, carefully observing and following with their eyes the effects of the equilibrium: at last, when it was sufficiently loosened, making one violent push, they suddenly drew back together, that they might not be wounded; and the whole came tumbling to the ground †."

Now that fire-arms are the principal implements of war, Elephants, which are terrified at the noise and flame, instead of being useful, would, in action, only tend to embarrass and confuse an army. In Cochin, and other parts of Malabar, however,

* Voyage to Surat, quoted in Buff. Quad. † D'Obsonville, 102.

as well as in Tonquin, Siam, and Pegu, where fire-arms are but little understood, these animals are still used in battle. The guide sits across upon the neck, and the combatants sit or stand upon the other parts of the body. They are also extremely serviceable in the fording of rivers, by carrying over the baggage on their backs. After the keeper has loaded them with several hundred weight, he fastens ropes to them; of which the soldiers taking hold, either swim, or are drawn through the water. In time of action, a heavy iron chain is sometimes fixed to the end of their trunks; which they whirl round with such agility as to render it impossible for an enemy to approach them at that time. Another use still made of this creature in war, is to force open the gates of a city or garrison which is closely besieged. This he does by setting his hinder parts against them, and moving backwards and forwards till he has burst the bars, and forced an entrance: to prevent which, many of the garrisons in the East have large spikes stuck in their gates, projecting to a considerable distance.

The Elephant is, however, used in dragging artillery over mountains; and it is on such occasions that his sagacity is most conspicuous. While the Oxen yoked to a cannon make an effort to pull it up a declivity, the Elephant pushes the breech with his front, and at each effort supports the carriage with his knee, which he places against the wheel. He seems to undersand whatever is said to him.

When his conductor wants him to execute any

painful labour, he explains the nature of the operations, and recites the reasons which ought to induce him to obey. If the Elephant shews a repugnance to what is exacted of him, his *Cornac*, or conductor, promises to give him arrack, or somewhat else that he likes. It is extremely dangerous, however, to break any promise that is made to him ; many *Cornacs* have fallen victims to indiscretions of this kind.

But though he is vindictive, the Elephant is not ungrateful. A soldier at Pondicherry was accustomed to give a certain quantity of arrack to one of these animals, every time he got his pay ; and having one day intoxicated himself, and being pursued by the guard, who wanted to put him in prison, he took refuge under the Elephant, and there fell fast asleep. The guard in vain attempted to drag him from this asylum, for the Elephant defended him with its trunk. Next day the soldier, having recovered from his intoxication, was in dreadful apprehension when he found himself under the belly of this enormous animal. The Elephant, who unquestionably perceived his terror, relieved his fears by immediately carressing him with his trunk.

This animal is, during the rutting season, seized with a madness which makes him totally untractable, and makes him so formidable, that it is often necessary to kill him. The people try to bind him with large iron chains, in the hope of reclaiming him : but in his ordinary state, the most acute pains will not provoke him to hurt those who have never injured him. An Elephant, rendered

furious by the wounds it had received at the battle of Hambour, ran about the field making the most hideous cries. A soldier, notwithstanding the alarms of his comrades, was unable, perhaps on account of his wounds, to fly. The Elephant approached, seemed afraid of trampling him under its feet, took him up with its trunk, placed him gently on his side, and continued its route.

An incident to which M. le Baron de Lauriston was a witness during one of the late wars in the East, forms another proof of the sensibility of the Elephant. This gentleman, from his zeal and some other circumstances, was induced to go to Laknaor, the capital of the Soubah or viceroyalty of that name, at a time when an epidemic distemper was making the greatest ravages amongst the inhabitants. The principal road to the palace-gate was covered with the sick and dying, extended on the ground, at the very moment when the nabob must necessarily pass. It appeared impossible for his Elephant to do otherwise than tread upon and crush many of these poor wretches in his passage, unless the prince would stop till the way could be cleared ; but he was in haste, and such tenderness would be unbecoming in a personage of his importance. The Elephant, however, without appearing to slacken his pace, and without having received any command for that purpose, assisted them with his trunk, removed some, set others on their feet, and stepped over the rest with so much address and assiduity, that not one person was wounded. An Asiatic prince and his slaves were deaf to the cries

of nature, while the heart of the beast relented ; he, more worthy than his rider to elevate his front towards the heavens, heard and obeyed the calls of humanity *.

The following instance of the sagacity of these animals was mentioned to Dr. Darwin by some gentlemen of undoubted veracity, who had been much conversant with our Eastern settlements. The Elephants that are used to carry the baggage of our armies, are put each under the care of one of the natives of Indostan : and whilst this person and his wife go into the woods to collect leaves and branches of trees for his food, they fix him to the ground by a length of chain, and frequently leave a child yet unable to walk, under his protection : and the intelligent animal not only defends it, but, as it creeps about, when it arrives near the extremity of his chain, he wraps his trunk gently round its body, and brings it again into the centre of his circle †.

During one of the wars in India, many Frenchmen had an opportunity of observing one of the Elephants that had received a flesh-wound from a cannon-ball. After having been twice or thrice conducted to the hospital, where he extended himself to be dressed, he afterwards used to go alone. The surgeon did whatever he thought necessary, applying sometimes even fire to the wound : and though the pain made the animal often utter the most plaintive groans, he never expressed any other tokens than those of gratitude to this person, who by mo-

* D'Obeonville, 160.

† Darwin's Zoonomia.

mentary torments endeavoured, and in the end effected, his cure *.

In the last war, a young Elephant received a violent wound in its head ; the pain of which rendered it so frantic and ungovernable, that it was found impossible to persuade the animal to have the part dressed. Whenever any one approached, it ran off with fury, and would suffer no person to come within several yards of it. The man who had the care of it, at length hit upon a contrivance for securing it. By a few words and signs he gave the mother of the animal sufficient intelligence of what was wanted ; the sensible creature immediately seized her young one with her trunk, and held it firmly down, though groaning with agony, while the surgeon completely dressed the wound : and she continued to perform this service every day till the animal was perfectly recovered.

In many parts of India, Elephants are made the executioners of justice ; for, with their trunks, they will break every limb of a criminal, trample him to death, or tranfix him with their tusks, as they are directed.

In India, they were once employed in the launching of ships. One was directed to force a very large vessel into the water ; but the work proved superior to his strength. His master, in a sarcastic tone, bid the keeper take away this lazy beast, and bring another. The poor animal instantly repeated his

efforts, fractured his skull, and died on the spot *.

In the Philosophical Transactions, a story is related of an Elephant having such an attachment for a very young child, that he was never happy but when it was near him. The nurse used, therefore, very frequently to take the child in its cradle, and place it between his feet. This he became at length so much accustomed to, that he would never eat his food except when it was present. When the child slept, he used to drive off the flies with his proboscis; and when it cried, he would move the cradle backwards and forwards, and thus rock it again to sleep †.

A sentinel belonging to the present menagerie at Paris, was always very careful in requesting the spectators not to give the Elephants any thing to eat. This conduct particularly displeased the female; who beheld him with a very unfavourable eye, and had several times endeavoured to correct his interference by sprinkling his head with water from her trunk. One day, when several persons were collected to view these animals, a by-stander offered the female a bit of bread. The sentinel perceived it; but the moment he opened his mouth to give his usual admonition, she, placing herself immediately before him, discharged in his face a considerable stream of water. A general laugh ensued; but the sentinel, having calmly wiped his face, stood

* Penn. Quad. i. 155. related from Ludolph. Com: in Hist. Æth. 147.

† Phil. Tran. xxviii. 65.

a little to one side, and continued as vigilant as before. Soon afterwards, he found himself under the necessity of repeating his admonition to the spectators ; but no sooner was this uttered, than the female laid hold of his musket, twirled it round with her trunk, trod it under her feet, and did not restore it till she had twisted it nearly into the form of a screw *.

M. Navarette says, that at Macasar, an Elephant-driver had a cocoa-nut given him, which out of wantonness he struck twice against his Elephant's forehead to break. The day following the animal saw some cocoa-nuts exposed in the street for sale ; and taking one of them up with its trunk, beat it about the driver's head, till the man was completely dead. " This comes (says our author) of jesting with Elephants †."

An Elephant that was exhibited in France some years ago, seemed to know when it was mocked by any person ; and remembered the affront till an opportunity for revenge occurred. A man deceived it, by pretending to throw something into its mouth : the animal gave him such a blow with its trunk, as knocked him down, and broke two of his ribs. After which it trampled on him with its feet, broke one of his legs, and bending down on its knees, endeavoured to push its tusks into his body : but they luckily ran into the ground on each side of his thigh, without doing him any injury.— This Elephant generally made less use of its strength than its address. With great ease and coolness, it

* Tillich.

† Navarette, i. 268.

loosened the buckle of a large double leathern strap with which its leg was fixed; and though the attendants had wrapped the buckle round with a small cord, and tied many knots on it, the creature deliberately loosened the whole, without breaking either the cord or the strap. One night, after disengaging itself in this manner from its strap, it broke up the door of its lodge with such dexterity as not to awaken the keeper. Thence it went into several courts of the menagerie; forcing open doors, and throwing down the walls when the doors were too narrow to let it pass. In this manner it got access to the apartments of other animals; and so terrified them, that they fled into the most retired corners of the inclosure *.

“ I have frequently remarked (says Terry, in his Voyage to the East Indies) that the Elephant performs many actions which would seem almost the immediate effect of reason. He does every thing his master commands. If he is directed to terrify any person, he runs upon him with every appearance of fury, and, when he comes near, stops short, without doing him the least injury. When the master chuses to affront any one, he tells the Elephant; who collects water and mud with his trunk, and squirts it upon the object pointed out to him.”

That Elephants are susceptible of the warmest attachment to each other, the following account, extracted from a late French journal, will sufficiently prove. Two Ceylonese Elephants, a male and a

* Buff. Quad.

female, each about two years and a half old, were in 1786 brought into Holland, a present to the Stadholder from the Dutch East India Company. They had been separated, in order to be conveyed from the Hague to Paris; where, in the Museum of Natural History, a spacious hall was prepared for their reception. This was divided into two apartments, which had a communication by means of a large door resembling a portcullis. The inclosure round these apartments consisted of very strong wooden rails. The morning after their arrival, they were conveyed to this habitation. The male was first brought. He entered the apartment with suspicion, reconnoitred the place, and then examined each bar separately with his trunk, and tried their solidity by shaking them. He attempted to turn the large screws on the outside which held them together, but was not able. When he arrived at the portcullis which separated the apartments, he observed that it was fastened only by a perpendicular iron bar. This he raised with his trunk, then pushed up the door, and entered the second apartment where he received his breakfast.—These two animals had been parted, (but with the utmost difficulty,) for the convenience of carriage, and had not seen each other for some months; and the joy they experienced on meeting again, after so long a separation, is scarcely to be expressed. They immediately rushed towards each other, and sent forth cries of joy so animated and loud as to shake the whole hall. They breathed also through their trunks with such violence, that the blast resembled an impetu-

ous gust of wind. The joy of the female was the most lively. She expressed it by quickly flapping her ears, which she made to move with astonishing velocity, and drew her trunk over the body of the male with the utmost tenderness. She particularly applied it to his ear, where she kept it a long time; and after having drawn it over his whole body, often moved it affectinately towards her own mouth. The male did the same over the body of the female, but his joy was more steady. He seemed, however, to express it by his tears, which fell from his eyes in abundance. Since this time they have occupied the same apartment; and their mutual tenderness and natural affection have excited the admiration, and even the esteem, of all who have visited them.

These two Elephants consume every day a hundred pounds weight of hay, and eighteen pounds of bread, besides several bunches of carrots, and a great quantity of potatoes. During summer they drink about thirty pails of water in the day.—On their arrival in Holland, they were conveyed in a vessel up the river Waal to Nimeguen, whence they were driven on foot to Loo. The attendants had much difficulty in inducing them to cross the bridge at Arnheim. The animals had fasted for several hours, and a quantity of food was placed for them on the opposite side of the bridge. Still, however, some time elapsed before they would venture themselves upon it; and at last they would not make any step without first carefully examining the planks, to see that they were firm. During the time they were

kept at Loo they were perfectly tame, and were suffered to range at liberty. They would sometimes even come into the room at the dinner hour, and take food from the company. After the conquest of Holland, from the cruelty with which they were treated by many of the spectators who crowded to visit them, they lost much of their gentleness; and their subsequent confinement in the cages in which they were conveyed to Paris, has even rendered them in some degree ferocious towards spectators. They are not suffered to range at liberty; but are kept in an inclosure sufficiently large to allow them some exercise. This contains their den, and a pond, in which during summer they often wash themselves*.

The Elephant, it is said, is even able to write with a pen. "I have myself seen (says Ælian) an Elephant write Latin characters on a board in a very orderly manner, his keeper only shewing him the figure of each letter†."

Dr. Darwin tells us, that he was informed by a gentleman of veracity, that, in some parts of the East, the Elephant is taught to walk on a narrow path between two pit-falls, which are covered with turf; and then to go into the woods, and seduce the wild Elephants to come that way, who fall into these wells, whilst he passes safe between them. The same gentleman says also that it was universally observed, that such wild Elephants as had

* La Menagerie du Museum National d'Histoire Naturelle.

† Opera Claudii Æliani, cura Con. Gesneri.

escaped the snare, always pursued the traitor with the utmost vehemence; and if they could overtake him, which sometimes happened, they beat him to death *.

Tavernier relates, that one of the kings of India was in a hunting-party, with his son, upon an Elephant, when the animal, being seized with one of his periodical fits of madness, became at once ungovernable and furious. The Cornac told the king, that, to allay the fury of the animal, who would otherwise doubtless bruise them all to death among the trees, one of the three must sacrifice his life; and that he would willingly yield his own for the preservation of the other two. In return, he only intreated that the king would provide for his family after his death. This being promised, he threw himself headlong under the animal's feet; who seized him with his trunk, and afterwards, by trampling, crushed him to pieces. The Elephant soon seemed to repent of having thus, without provocation, murdered his keeper; and without any farther difficulty, became perfectly quiet. The king, says our author, provided liberally for the wife and children of the poor fellow, who had thus generously sacrificed his life for the safety of him and his son †.

Elephants, when hunted, endeavour to avoid muddy rivers with the greatest care, probably that they may not stick fast in the ooze; while, on the

* Darwin's Zoonomia.

† Tavernier's Travels in India.

other hand, they industriously seek out the larger rivers, which they swim over with great ease. For, notwithstanding that the Elephant, from the form of his feet and the position of his limbs, does not seem to be adapted for swimming, (when he is out of his depth in the water, his body and head being entirely sunk under the surface ;) yet he is in less danger of being drowned than many other land animals, as he carries his long trunk raised above the surface of the water in order to breathe, and can steer his course in it by means of this appendage. It has consequently been observed, that when several Elephants have swum over a river at the same time, they have all found the way very well ; and have been able also to avoid running foul of each other, though their heads and eyes have been all the while under water.

These animals are said to be kept in many parts of India, more for shew and grandeur than for use. And their keeping is attended with very great expence ; for they devour vast quantities of provision, and must sometimes be regaled with a plentiful repast of cinnamon, of which they are exceedingly fond. It is said to be no uncommon thing for a nabob, if he wishes to ruin a private gentleman, to make him a present of an Elephant ; which he is afterwards obliged to maintain at a greater expence than he can afford. By parting with it he would certainly fall under the displeasure of the grandee ; besides forfeiting all the honour which his countrymen think is conferred upon him. by so respectable a present.

In the Island of Ceylon the general value of an Elephant is about fifty pounds sterling. But if there is any blemish ; if, for instance, its tail has been plucked off, one of its ears slit, or it has suffered any other kind of damage ; very considerable deductions are made. And, as it is very unusual to find an Elephant free from all these defects, those that are so are commonly sold at from one to two hundred pounds each. They are taken to market at certain stated periods ; and generally sold, a great number together, by auction. It is customary for two or more persons to purchase conjointly, fifty, sixty, or a hundred Elephants ; which they afterwards dispose of in separate lots, with great profit *.

Elephants are said to be extremely susceptible of the power of music. Suetonius relates that the emperor Domitian had a troop of Elephants disciplined to dance to the sound of music ; and that one of them who had been beaten for not having his lesson perfect, was observed the night afterwards in a meadow, practising it by himself !

At Paris some curious experiments have been lately made on the power of music over the sensibility of the Elephant. A band of music went to play in a gallery extending round the upper part of the stalls in which were kept two Elephants, distinguished by the names of *Margaret* and *Hans*. A perfect silence was procured. Some provisions of which they were fond were given them to engage their attention,

* Thunberg, iv. 249.

and the musicians began to play. The music no sooner struck their ears, than they ceased from eating, and turned in surprise to observe whence the sounds proceeded. At sight of the gallery, the orchestra, and the assembled spectators, they discovered considerable alarm, as though they imagined there was some design against their safety. But the music soon overpowered their fears, and all other emotions became completely absorbed in their attention to it. Music of a bold and wild expression excited in them turbulent agitations, expressive either of violent joy, or of rising fury. A soft air performed on the bassoon, evidently soothed them to gentle and tender emotions. A gay and lively air moved them, especially the female, to demonstrations of highly sportive sensibility. Other variations of the music produced corresponding changes in the emotions of the Elephants.

Some of the Indians who believe in transmigration of souls, are persuaded that a body so majestic as that of the Elephant, must be animated with the soul of a great man or a king. In many of the Eastern countries the white Elephants are regarded as the living *manes* of the Indian emperors. Each of these animals has a palace, a number of domestics, and magnificent trappings; and eats out of golden vessels filled with the choicest food. They are absolved from all labour and servitude. The emperor is the only person before whom they bow the knee, and their salute is returned by the monarch.—When the king of Pegu walks abroad, four white Elephants, adorned with precious stones

and ornaments of gold, march before him ; and when he gives audience, these four Elephants are presented to him, who do him reverence by raising their trunks, opening their mouths, making three distinct cries, and then kneeling. This ended, they are led back to their stable, and there each of them is fed in large golden vessels. They are twice a-day washed with water taken from a silver vessel. During the time of their being dressed in this manner, they are under a canopy, supported by eight domestics, in order to defend them from the heat of the sun. In going to the vessels which contain their food and water, they are preceded by three trumpets, and march with great majesty.

Such are the accounts, collected through a pretty wide range of authorities, which I have been enabled to give, of the disposition and manners of this useful and most intelligent of all animals. These may, perhaps, in a few instances, have been exaggerated by the writers, and must consequently be received with some degree of limitation ; yet we have had so many surprising instances of their sagacity, given to us on undoubted authority, that however wonderful these may seem, it would not be right to entirely discredit any of them, without direct proof of their untruth. The authorities for the whole are such as have been received by different respectable and observing men, who, with both the powers and ability of enquiring into them, seem to have entertained no doubts whatever of their validity.

Our account of this extraordinary animal cannot

be better closed than with the following expressive lines, finely descriptive of his native state :

Peaceful beneath primeval trees, that cast
 Their ample shade o'er Niger's yellow stream,
 And where the Ganges rolls his sacred wave;
 Or mid the central depth of black'ning woods,
 High rais'd in solemn theatre around ;
 Leans the huge Elephant, wisest of brutes.
 O truly wise ! with gentle might endow'd ;
 Though powerful, not destructive ! Here he sees
 Revolving ages sweep the changeful earth,
 And empires rise and fall ; regardless he
 Of what the never-resting race of men
 Project : thrice happy ! could he 'scape their guile,
 Who mine, from cruel avarice, his steps ;
 Or with his tow'ry grandeur swell their state,
 The pride of kings ! or else his strength pervert,
 And bid him rage amid the mortal fray,
 Astonish'd at the madness of mankind.

THE PLATYPUS TRIBE.

THE only animal at present known as belonging to this very extraordinary tribe, was discovered a few years ago, in New Holland. Sir Joseph Banks had in his possession two specimens, which were sent over by Governor Hunter ; and only one or two others have as yet arrived in this kingdom.

The Platypus has two grinders on each side both of the upper and lower jaw. Instead of front teeth, it has a process resembling the bill of a Duck. The feet are webbed.

THE DUCK-BILLED PLATYPUS*.

The mouth of this very singular creature exhibits so great a resemblance to the beak of some of the broad-billed species of Ducks, that it is not without minute and accurate examination, that we can persuade ourselves of its being the real beak or snout of a quadruped.

The length of the animal, from the tip of the beak to the end of the tail, is thirteen inches; and of this the beak occupies an inch and a half. The body is depressed, and has some resemblance to that of an Otter in miniature; it is covered with a very thick, soft fur, of a moderately dark brown colour above, and whitish beneath. The head is rather small; and the tail flat, furry like the body, and obtuse. The legs are very short, and terminate in a broad web, which on the fore-feet extends to a considerable distance beyond the claws. On the fore-feet there are five claws straight, strong, and sharp-pointed; and on the hind-feet six curved claws; the interior one seated much higher than the rest, and resembling a strong sharp spur†.

The specimens of this animal hitherto sent to Europe, have been deprived of their internal parts, and are for the most part very ill preserved. Mr. Home examined one belonging to Sir Joseph Banks,

* SYNONYMS.—*Platypus Anatinus*. Duck-billed Platypus. *Shaw*.—*Ornithorhynchus paradoxus*. *Home*. *Baumenbach*.—*Shaw's Gen. Zool.* pl. 66. 67.

† *Shaw's Zool.* i. 232.

which had been kept in spirits, and was tolerably perfect. He discovered that although the beak, when cursorily examined, had so great a resemblance to that of the Duck, as to induce a belief that it was calculated for exactly the same purposes ; yet when all its parts were carefully reviewed, he found that it differed in a variety of circumstances. This, it appears, is not the animal's mouth ; but is merely a projecture beyond, and added to it.

The cavity of the mouth is similar to that of other quadrupeds, and has two grinders on each side, both in the upper and under jaw : but instead of front-teeth, the nasal and palate bones are continued forward, lengthening the anterior nostrils, and forming the upper part of the beak ; and the two portions of the lower jaw, instead of terminating, as in other quadrupeds, are also continued forwards, forming the under portion of the beak. This structure differs materially from the bills of all birds : since in the feathered tribe the cavities of the nostrils do not extend beyond the root of the bill ; and in the lower portions, which correspond with the under jaw of quadrupeds, the edges are hard, to answer the purpose of teeth, and in the middle there is an hollow space to receive the tongue : but in the Platypus the two thin plates of bone are in the centre, and the parts that surround them are composed of skin and membrane, in which, probably, a muscular structure is included.

The teeth have no fangs that sink into the jaw, as in most other quadrupeds, but are embedded in the gums.—The tongue is scarcely half an inch long,

and the moveable part is not more than a quarter of an inch. It can be drawn entirely into the mouth ; and, when extended, reaches about a quarter of an inch into the beak.—The organ of smell differs in some measure from that of both quadrupeds and birds. The external opening is placed near the end of the beak ; whence are superadded to it two cavities, extending all the way along the beak.—The beak itself is covered with a smooth black skin, that extends some way beyond the bones, both in front and laterally ; and forms a moveable lip, so strong, that when dried or hardened in spirit, it seems to be quite rigid, but when moistened is very pliant, and is probably a muscular structure. The under portion of the beak has a lip equally broad with the upper. This has a serrated edge, (wanting in the upper mandible), but the serræ are mostly confined to the soft part.—A curious transverse fold of the external black smooth skin by which the beak is covered, projects all round, exactly at that part where it has its origin. The apparent use of this is to prevent the beak from being pushed too far into the soft mud, in which prey may be concealed.—The nerves that supply the beak, are much allied to those of birds ; and the cavity of the skull has a greater resemblance to that of a Duck than of a quadruped.—The eye is uncommonly small for the size of the animal ; and the external opening of the ear is simply an orifice, and so minute as not to be discovered without difficulty.

From the form of this animal we are led to suppose it a resident in watery situations ; that it burrows in the banks of rivers, or under ground, and that its food consists of aquatic plants and animals. But the structure of its beak is such as not to enable it to lay firm hold of its prey : when, however, the two marginal lips are brought together, the animal has most probably a considerable power of suction, and in this manner may draw food into its mouth *.

THE MANATI TRIBE.

THE animals of this tribe are destitute of fore-teeth in both jaws. From the upper jaw, however, proceed two great tusks, which point downwards. The grinders have wrinkled surfaces. The lips are doubled. The hind feet are at the extremity of the body, and unite into a kind of fin.

The Manati are entirely marine ; feeding on seaweeds, corallines, and shell-fish, and not carnivorous. Their elongated body, declining in bulk from the head gradually to the tail ; and their short, fin-like feet ; give them some alliance to the fishy tribes. They may indeed be considered as forming one of those steps in nature, by which we are conducted from one great division of the animal world to the other. Though the general residence

* Phil. Trans. for 1800, p. 432.

of all the species is in the sea, yet some of them are perfectly amphibious, and live with equal ease on the land and in water.

THE ARCTIC WALRUS*.

These animals, which are sometimes seen eighteen feet long, and ten or twelve in circumference, are inhabitants of the coasts of the Magdalene Islands, in the Gulph of St. Lawrence. They are usually found in vast multitudes floating on the ice. In their upper jaw they have two long tusks bending downwards, which they use in scraping shell-fish and other prey out of the sand, and from the rocks. The further use of these is in ascending the islands of ice, the animals fixing them in the cracks, and upon them drawing up their bodies. They are also weapons of defence against the White Bear, the Sword-fish, and Sharks †.

The Arctic Walrus is inelegant in its form, having a small head, short neck, thick body, and short legs. The lips are very thick, and the upper one is cleft into two large rounded lobes, on which there are several thick and semi-transparent bristles. The eyes are very small; and instead of external ears, there are only two small circular orifices. The skin is thick, and scattered over with short brownish hair. On each foot there are five toes. connected

* SYNONYMS.—*Trichechus Rosmarus*. *Linn.*—Sea-horse. *Ellis.*—Walross. *Marten.*—Morse, or Walrus. *Smell. Buff.*—Morse. *Buffon.*—*Rosmarus*. *Johnston.*—Arctic Walrus. *Penn.*—*Shaw's Gen. Zool.* pl. 68, 69.—*Bere. Quad.* 467. † *Crantz*, i. 127.

by webs, and the hind-feet are considerably broader than the others. The tail is extremely short.

They are harmless animals, unless when attacked or provoked, in which case they become furious, and exceedingly vindictive. When surprised on the ice, the females first provide for the safety of their young, by flinging them into the sea, and conveying them to a secure distance; they then return to the place with great rage to revenge any injury they have received. They will sometimes attempt to fasten their teeth on the boats, in order to sink them, or will rise under them in great numbers, with the intention of oversetting them, at the same time exhibiting all the marks of rage, roaring in a dreadful manner, and gnashing their teeth with great violence. They are strongly attached to each other, and will make every effort in their power, even to death, to set at liberty their harpooned companions. A wounded Walrus has been known to sink to the bottom, rise suddenly again, and bring up with it multitudes of others, who have united in an attack on the boat from whence the insult came*.

These animals always visit the Magdalene Islands early in the spring. These seem particularly adapted to their wants, abounding in large shell-fish, and affording them a convenient landing. Immediately on their arrival they crawl up the sloping rocks of the coast in great numbers, and frequently

* Penn. Arct. Zool. i. 147.

remain for many days, when the weather is fair, without food; but on the first appearance of rain they immediately retreat to the water with great precipitation. Very soon after their arrival they bring forth their young. The inhabitants suffer them to come on shore, and amuse themselves for a considerable time, till they acquire some degree of boldness; for, at first landing, they are so exceedingly timid as to suffer no one to approach them. In a few weeks they assemble in great numbers; formerly, when undisturbed by the Americans, to the amount of 7 or 8000.—At a proper time, the fishermen, taking advantage of a sea wind to prevent the animals from smelling them, and with the assistance of dogs, endeavour in the night to separate those that are farthest advanced from those next the water, driving them different ways. This they call making a cut, and it is generally esteemed a very dangerous process, since it is impossible to drive them in any particular direction, and often difficult to avoid them. The darkness of the night, however, deprives them of every direction to the water, so that they stray about, and are killed by the men at leisure, those nearest the shore becoming the first victims. In this manner fifteen or sixteen hundred have been killed at one cut.—They are then skinned, and the coat of fat that always surrounds them is taken off, and dissolved into oil. The skin is cut into slices of two or three inches wide, and exported to America for carriage-traces, and to England for glue*.

* Shulldham, in *Phil. Tran.* vol. 65. p. 249.

They sometimes attack small boats, merely through wantonness, and not only put the people in confusion, but frequently subject them to great danger. In the year 1766 some of the crew of a sloop which sailed to the north, to trade with the Esquimaux, were attacked in their boat by a great number of these animals; and, notwithstanding their utmost endeavours to keep them off, one more daring than the rest, though a small one got in over the stern, and after sitting and looking at the men some time, he again plunged into the water to his companions. At that instant, another of an enormous size was getting in over the bow; and every other means proving ineffectual to prevent such an unwelcome visit, the bowman took up a gun, loaded with goose-shot, put the muzzle into the animal's mouth, and shot him dead. He immediately sunk, and was followed by all his companions. The people then made the best of their way to the vessel, and just arrived before the creatures were ready to make their second attack, which, in all probability, would have been infinitely worse than the first, as they seemed highly enraged at the loss of their companion*.

The following is Captain Cook's description of a herd of Walruses, that were seen floating on a mass of ice off the northern part of the continent of America.—“ They lie in herds of many hundreds, upon the ice, huddling over one another like swine; and roar or bray so very loud, that in the night, or in

* Hearn, 289.

foggy weather, they gave us notice of the vicinity of the ice before we could see it. We never found the whole herd asleep, some being always upon the watch. These, on the approach of the boat, would wake those next to them; and the alarm being thus gradually communicated, the whole herd would be awake presently. But they were seldom in a hurry to get away, till after they had been once fired at. They then would tumble over one another into the sea in the utmost confusion. And if we did not, at the first discharge, kill those we fired at, we generally lost them, though mortally wounded. They did not appear to us to be that dangerous animal which some authors have described; not even when attacked. They are rather more so in appearance than in reality. Vast numbers of them would follow and come close up to the boats; but the flash of a musket in the pan, or even the bare pointing one at them, would send them down in an instant. The female will defend the young to the very last, and at the expence of her own life, whether in the water, or upon the ice. Nor will the young one quit the dam, though she be dead; so that if one is killed, the other is certain prey. The dam, when in the water, holds the young one between her fore-fins *."

The Greenlanders, when they find a herd of them upon the ice, approach in their boats, and fling their harpoons as the alarmed animals are tumbling themselves along the steeps of the ice into the sea. They seize these opportunities of killing

* Cook's last Voyage, iii. 42, 42.

them, as the animals always distend their skins, to roll with greater ease and lightness, and, therefore, are easier to hit than when they are at rest on the shore, and the skin is flaccid *.

When playing about in the water, they have been frequently observed to draw Sea-fowl beneath the surface, with their long tusks, and after a while to throw them up in the air; but they live entirely upon marine plants and Shell-fish, and never eat these †.

This animal appears to have been known to king Alfred so early as the year 890, from the information of Ochter, the Norwegian, who made a voyage beyond the North Cape of Norway, “for the more commoditie, (says Hakluyt) of fishing of *Horse-wales*, which have in their teeth bones of great price and excellence; whereof he brought some on his returne unto the king.” Hakluyt further informs us, that at that period the natives of the northern coasts made cables, some of them sixty ells in length, of the Horse-Wales and Seals-skins ‡.

The tusks of the Walrus, which weigh from ten to thirty pounds each, are used as an inferior sort of ivory; but the animals are principally for the sake of their oil. A very strong and elastic leather, it is said, may be prepared from the skin. The animals frequently weigh from 1500 to 2000 pounds, and produce from one to two barrels of oil each §.

* Marten's Spitsbergen, in Harris. † Crantz, i. 127. ‡ Hakluyt, i. 5. § Phil. Trans. vol. 65. p. 249.

THE WHALE-TAILED MANATI*.

The Whale-tailed Manati live entirely in the water, and in other respects they so nearly approach the Whale tribe, as scarcely to deserve the name of Quadrupeds. What are denominated feet are little more than pectoral fins, which serve only for swimming.

They inhabit these seas between America and Kamtschatka, but never appear off the coast of Kamtschatka, unless driven there by a tempest.—They are always found in herds. The old ones keep behind, and drive the young before them; and some go along the sides, by way of protection.—On the rising of the tide they approach the shores, and are so tame as to suffer themselves to be handled. They live in families near one another, each consisting of a male and female, a half grown young one, and a new-born cub; and these families often unite so as to form vast droves †.

In their manners they are peaceable and harmless, and bear the strongest attachment to each other. When one is hooked, the whole herd will attempt its rescue; some will strive to upset the boat by going beneath it; others will fling themselves on the rope of the hook, and press it down in order to break it; and others again will make the utmost efforts to wrench the instrument out of the body of their wounded companion.

* SYNONYMS.—*Trichechus Borealis*. *Linn.* — *Miphiota Florow*, the Russian name, *Steller*.—Whale-tailed Manati. *Penn.*

† *Penn. Quad.* ii. 537.

In their conjugal affection, if such it may be termed, they are most exemplary. A male, after having used all his endeavours to release his mate, which had been struck, pursued her to the very edge of the water; and no blows that were given could force him away. As long as the deceased female continued in the water, he persisted in his attendance; and even for three days after she was drawn on shore, cut up, and carried away, he was observed to remain in expectation of her return.

They are taken by a great hook fastened to a long rope. The strongest man in the boat strikes the instrument into the nearest animal; which being done, twenty or thirty people on shore seize the rope, and with the greatest difficulty drag it on shore. The poor creature makes the strongest resistance, assisted by its faithful companions. It will cling with its feet to the rocks till it leaves the skin behind; and often great fragments fly off before it can be landed. "I once saw (says Dr. Grieve,) some of the fishermen cut off the flesh from one of them while it was alive, which all the while struck the water with such force with its paws as entirely to tear off the skin *."

Their size is enormous, some of them being twenty-eight feet long, and weighing so much as eight thousand pounds.—They are exceedingly voracious, and feed on the different species of Fuci that grow in the sea, and are driven to the shore. When filled they fall asleep on their backs. Dur-

* Grieve, 134. Penn. Arct. Zool. i. 177.

ing their meals they are so intent on their food, that any one may go among them, and select out one of their number. Their back and sides are generally above water*.

The head is small. The lips are double; and, near the junction of the two jaws, the mouth is filled with white tubular bristles, which prevent the food from running out with the water, and also serve for cutting teeth, to divide the strong roots of the sea-plants. Two flat white bones with undulated surfaces, one in each jaw, supply the place of grinders.—The eyes are extremely small, as are also the orifices for the ears. The tail is thick and strong; ending in a black, stiff fin. The skin is thick, hard, and black, and full of inequalities like the bark of oak; beneath it there is a thick blubber.

The flesh is coarser than beef, and does not soon putrify. The young ones taste like veal†.

THE ROUND-TAILED MANATI ‡.

These animals are about six feet long; and three or four in circumference, though sometimes much more. They have a short thick neck, small eyes, and thick lips; are very thick about the shoulders, and taper gradually to the tail, which is broad and round. The feet are placed at the shoul-

* Penn. Quad. ii. 507.

† Grieve, 135.

‡ SYNONYMS.—*Trichenus Manatus*. *Linn.*—*Iamantin*. *Buffon*. *Adanson*.—*Sea Cow*. *Adanson*.—*Round-tailed Manati*. *Penn.*—*Shaw's Gen. Zool.* pl. 69.

ders, and near the base of each foot, in the female, there is a small teat. The skin is thick and hard, and has a few hairs scattered over it.

They are found in the African rivers, from Senegal to the Cape ; and in abundance on some of the Eastern coasts of South America. In the river of Amazons, they are often seen nearly a thousand leagues from its mouth. They seem much more partial to fresh or only brackish water, than to the sea.

At times they are observed, in their frolicsome moods, to leap to great heights above the surface ; and they delight in shallow water near low land, and in places secure from surges, where the tides run gently. Marine plants seem to constitute their principal food. They are taken by harpoons. The Indians go out in small canoes (with the utmost silence, for the animal is very quick of hearing), carrying a harpoon, fastened to a strong cord of several fathoms in length. When struck, the Manati swims off with the instrument of death in his body ; and, when spent with pain and fatigue, again rises to the surface, and is taken. The affection of the parent for her young is as conspicuous in this as in the last species. If a young one is with its mother when she is struck by a fisherman, careless of her own sufferings, she affectionately takes it, if not too large, under her fins or feet, to protect it from her own fate. But how cruelly do mankind reward them for these tender offices ! the young, which will never forsake its dam, even in the greatest distress, is looked upon in no other light than as certain prey !

We are told that this species of Manati is often tamed by the native inhabitants of America, and that it delights in music. A governor of Nicaragua is said to have kept one of them in a lake near his house, for six-and-twenty years. The animal was usually fed with bread, and fragments of victuals, as fish are fed in a pond. He became so familiar, that in tameness and docility he nearly equalled what has been said by the ancients of their Dolphin. The domestics gave him the name of Matto; and when any of them came at the regular hour to feed him, and called him by his name, he would come immediately to the shore, take victuals out of their hands, and, (though contrary to what is generally said of these creatures) even crawl up to the house to receive it. Here he would play with the servants and children; and according to the writer of the account has even been known to carry persons across the lake on his back *. From circumstances similar to these, some authors have imagined this to be the Dolphin of the ancients; and others believe that what has been written respecting Mermaids and Syrens, should be referred to this animal.

The flesh and fat of the Round-tailed Manati are very white, sweet, and salubrious. The young are extremely tender and delicious. The thicker parts of the skin, cut into slips, and dried, become very tough, and are used for whips. The thinner parts, which are more pliant, serve the

* Parsons (from Peter Martyr), in *Phil. Tran.* vol. 47. p. 109.

Indians as thongs for fastening the sides of their canoes *.

SEA-APE MANATI †.

This animal, though placed among the Manati by Mr. Pennant, seems rather to belong to the next order, and to be a Seal ‡. The following is Dr. Grieve's account of it.—Mr. Steller saw off the coast of America, a marine animal which he calls a Sea-ape. The head appeared like that of a Dog; with sharp and upright ears, large eyes, and with both lips bearded. The body was round and conoid, the thickest part near the head; and the tail was forked. The animal was apparently destitute of feet.

It was extremely wanton, and played a number of apish-tricks. It sometimes swam on one and sometimes on the other side of the ship, gazing at it with great admiration. It would often stand erect for a considerable time, with one-third of its body above the water; then dart beneath the ship and appear on the other side, and repeat the same thirty times together. It would frequently rise with a sea plant in its mouth, not unlike the Bottle-gourd, and toss it up and catch it again, playing with it a thousand antics §.

From this animal, much more probably than from the Round-tailed Manati, the fable of the Syrens might originate.

* Penn. Quad. ii. 541. † Sea-ape. *Grieve*. ‡ Linn. Gmel. i. 62. n.

§ *Grieve*, 136. Penn. Arct. Zool.

THE SEALS*.

THE Seals seem to bear a considerable alliance to the Manati; most of them having the same kind of elongated body, and fin-like feet. They also inhabit the waters, where they swim with great ease. In summer they live much on the shores, but in winter they confine themselves almost entirely to the sea. They are a dirty, and an inquisitive race of animals; and though courageous and quarrelsome among themselves, are capable of being rendered tame. They are polygamous, one male having many females. Their flesh is said to be juicy and delicate eating; and their fat and hides are of use both in an economical and commercial view. They walk very awkwardly; from the fore paws being set considerably backwards, and the hind ones being united. Their food consists of fish and other marine productions†.

* The Linnæan order *FERRÆ* commences with this tribe. The animals composing it, have generally six front-teeth, of a somewhat conical shape, both in the upper and under jaw. Next to these are strong and sharp canine-teeth; and the grinders are formed into conical or pointed processes. Their feet are divided into toes, which are armed with sharp hooked claws. This is a predacious order, the animals being all carnivorous.—It consists of the Seal, Dog, Cat, Weasel, Otter, Bear, Opossum, Kangaroo, Mole, Shrew, and Hedgehog, tribes.

† Linn. Gmel. i. 62.

In the upper jaw they have six parallel, and sharp-pointed fore-teeth, the exterior of which are the largest; and in the lower jaw four, that are also parallel, distinct, and equal. There is one canine-tooth in each jaw; and five grinders above, and six below, all of which have three knobs or points *.

THE COMMON SEAL †.

These Seals are found on most of the rocky shores of Great Britain and Ireland, especially on the Northern coasts. They inhabit all the European seas, even to the farthest North; are found considerably within the arctic circle in the seas both of Europe and Asia, and even continue to those of Kamtschatka. They prey on fish, and are both excellent swimmers and ready divers ‡.—Their usual length is five or six feet. The head is large and round; the neck small and short; and on each side of the mouth there are several strong bristles. From the shoulders the body tapers to the tail. The eyes are large: there are no external ears; and the tongue is cleft or forked at the end. The legs are very short; and the hinder ones placed so backward, as to be but of little use except in swimming. The feet are all webbed. The tail is very short. The animals vary in colour; their short thick-set hair be-

* Linn. Gmel. i. 62.

† SYNONYMS.—*Phoca vitulina*. Linn.—Seal, or Sea calf. Var.—Phoque. Buffon.—*Shaw's Gen. Zool. pl. 70.*—Bew. *Quadr.* 109.

‡ Penn. Brit. Zool. i. 139.

ing sometimes grey, sometimes brown or blackish, and sometimes even spotted with white or yellow *.

Their dens or habitations are in hollow rocks or caverns near the sea, but out of the reach of the tide. In the summer they will leave the water, to bask or sleep in the sun on the large stones or shivers of rocks; and this is the opportunity that our countrymen take of shooting them. If they chance to escape, they hasten to the water, flinging stones and dirt behind them as they scramble along; at the same time expressing their fears by mournful cries. But if they are overtaken, they make a vigorous defence with their feet and teeth †.

Dr. Borlase says, that “ that they are very swift in their proper depth of water; dive like a shot, and in a trice rise at fifty yards distance. A person of the parish of Sennan, in Cornwall, saw, not long since, a Seal in pursuit of a Mullet. The Seal turned it to and fro, in deep water, as a Greyhound does a Hare. The Mullet, at last, found it had no way to escape but by running into shoal water: the Seal pursued; and the former, to get more surely out of danger, threw itself on its side, by which means it darted into shallower water than it could have swam in with the depth of its paunch and fins, and thus escaped ‡.”

In swimming, the Seals always keep their head above water. They sleep on the rocks; and are extremely watchful, never sleeping long without mov-

* Shaw, i. 251. † Penn. Brit. Zool. i. 141. ‡ Brit. Zool. i. 143.

ing; seldom longer than a minute; they then raise their heads, and if they see or hear nothing more than ordinary, again lie down, and so on, raising their heads a little and inclining them alternately at intervals of about a minute. Nature seems to have given them this precaution, as being unprovided with auricles or external ears; and consequently not hearing very quick, nor from any great distance*.

Seals, if taken young, are capable of being tamed; they will follow their master like a Dog, and come to him when called by the name that is given to them. Some years ago a young Seal was thus domesticated:—It was taken at a little distance from the sea, and was generally kept in a vessel full of salt water; but sometimes was allowed to crawl about the house, and even to approach the fire. Its natural food was regularly procured for it; and it was taken to the sea every day, and thrown in from a boat. It used to swim after the boat, and always allowed itself to be taken back. It lived thus for several weeks; and probably would have lived much longer, had it not been sometimes too roughly used. A Seal that was exhibited in London, in the year 1750, answered to the call of his keeper, and attended to whatever he was commanded to do. He would take food from the man's hand, crawl out of the water, and, when ordered, stretch himself out at full length on the ground. He would thrust out his neck and appear to kiss the keeper, as often as the man pleased; and, when he was directed, would

* Brit. Zool. i. 144.

again return into the water *.—The following is an interesting communication on this subject from Dr. Hamilton of Ipswich. “Some time ago, a farmer of Aberdowr, a town on the Fifeshire side of the banks of the Frith of Forth, in going out among the rocks to catch Lobsters and Crabs, discovered a young Seal, about two feet and a half long, which he brought home. He offered him some pottage and milk, which the animal greedily devoured. It was fed in this manner for three days; when the man's wife considering it an intruder in her family, would not suffer it to be kept any longer. Taking some men of the town along with him for the purpose, he threw it into the sea; but notwithstanding all their endeavours, it persisted in returning to them. It was agreed that the tallest of the men should walk into the water as far as he could, and having thrown the animal in, they should hide themselves behind a rock at some distance. This was accordingly done; but the affectionate creature returned from the water, and soon discovered them in their hiding-place. The farmer again took it home, where he kept it for some time; but at length growing tired of it, he had it killed for the sake of its skin.”

The Seals are taken for the advantage of their skins and oil. The time when this is done is generally in October, or the beginning of November. The hunters, provided with torches and bludgeons, enter the mouths of the caverns about midnight, and row in as far as they can. They then land; and, being properly

* Parson's Phil. Tran. vol. 47, p. 118.

stationed, begin by making a great noise, which alarms the animals, and brings them down from all parts in a confused hurry, uttering frightful shrieks and cries. In this hazardous employment much care is necessary on the part of the hunters, to avoid the throng, which presses down upon them with great impetuosity, and bears away every thing that opposes its progress; but when the first crowd has passed, they kill great numbers of young ones, which generally straggle behind, by striking them on the nose, where a very slight blow soon destroys them*.

To the inhabitants of Greenland the different species of Seals are indispensably necessary towards their existence. The sea is to them, what corn-fields are to us; and the Seal-fishery is their most copious harvest. The flesh supplies them with their principal, most palatable, and substantial food. The fat furnishes them with oil for their lamps and fires: they use it also with their food; and barter it for other necessaries with the factor. They find the fibres of the sinews better for sewing with than thread or silk. Of the skins of the entrails they make their windows, curtains for their tents, and shirts; and part of the bladders they use in fishing, as buoys or floats to their harpoons. Of the bones they formerly made all those instruments and working tools that are now supplied to them by the introduction of iron. Even the blood is not lost; for they boil that, with other ingredients, as soup. Of the

* Penn. Brit. Zool. i. 142. and Pontoppidan, ii. 126.

skins they form clothing, coverings for their beds, houses, and boats, and thongs and straps of every description.—To be able to take Seals, is the height of the Greenlanders' desires and pride; and to this labour, which is in truth an arduous one, they are trained from their childhood. By this they support themselves; by this they render themselves agreeable to each other, and become beneficial members of the community*.

The hunting of this animal also sets the courage and enterprize of the Finlander in the strongest possible light. The season for this chase begins when the sea breaks up, and the ice floats in shoals upon the surface. Four or five peasants will go out to sea in one small open boat, and often continue more than a month absent from their families. Thus do they expose themselves to all the horrors of the Northern seas, having only a small fire which they kindle on a sort of brick earth, and living on the flesh of the Seals which they kill. The fat and skins are what they bring home. The perils with which these voyagers have to struggle, are almost incredible. They are every instant betwixt masses of ice, which threaten to crush their little bark to atoms. They get upon the floating shoals; and creeping along them, steal cautiously upon the Seal, and kill him as he reposes on the ice.—The following narrative will represent the extreme danger of this employment.—A few years ago two Finlanders set out in a boat together. Having got sight of some Seals

* Crantz, i. 180.

on a little floating island, they quitted their boat, and mounted the ice, moving on their hands and knees to get near them without being perceived. They had previously fastened their boat to the little island of ice which they disembarked upon: but while they were busily engaged in the pursuit, a gust of wind tore it away; and meeting with other shoals, it was broken to pieces, and in a few minutes entirely disappeared. The hunters were aware of their danger only when it was too late. They were now left without help, without any resource, and without even a ray of hope, on their floating island. They remained two weeks on this frail territory. The heat which diminished its bulk, and also its prominent surface, rendered their situation more alarming every moment. In the anguish of hunger they gnawed the flesh off their arms. At last they embraced each other, resolved to plunge together into the sea, and thus end their misery, for they had no prospect of escaping. The fatal resolution was just made, when they discovered a sail. One of them stripped off his shirt, and suspended it on the muzzle of his gun. The signal was observed from the vessel, which was a Whale-fisher. A boat was put out to assist them, and by this providential circumstance they were saved from otherwise inevitable destruction *.

Seals, we are told, delight in thunder-storms; and during these times, sit on the rocks and contemplate, with seeming delight, the convulsions of the elements: in this respect differing widely from

* Acerbi, i. 291.

terrestrial quadrupeds, which are extremely terrified on such occasions.—The voice of a full-grown Seal is hoarse, and not unlike the barking of a Dog : that of the young resembles in some measure the mewing of a Kitten.

The female Seals bring forth two young ones or more at a birth. These they deposit, even as soon as produced, in the cavities of the ice ; and the male makes a hole through the ice near them, for a speedy communication with the water. Into this they always plunge with their young the moment they observe a hunter approach ; and at other times they descend into it spontaneously in search of food. The manner in which the male Seals make these holes is astonishing : neither their teeth nor their paws have any share in the operation ; it is performed solely by their breath *. When the females come out of the sea, they bleat *like sheep* for their young ; and though they often pass through hundreds of other young ones before they come to their own, yet they will never suffer any of the strangers to suck †. About a fortnight after their birth, the young are taken out to sea, and instructed in swimming and seeking their food : when they are fatigued, the parent is said to carry them on her back ‡. The Seal hunters in Caithnes assured Mr. Pennant that their growth was so rapid, that in nine tides (about fifty-four hours) after their birth, they become as active as their parents. And it is generally understood that a Seal six weeks old, will sometimes yield about eight gallons of oil ; a quantity much greater

* Acerbi, i. 187.

† Dampier, i. 89.

‡ Shew, i. 253.

than that afforded by some of the emaciated dams*.

The Seals eat their prey beneath the water. When they are devouring any oily fish, the place may be easily remarked by the smoothness of the waves immediately above†.—The flesh of Seals formerly found a place at the tables of the great in our country; as appears from the bill of fare of that vast feast which Archbishop Nevill gave in the reign of Edward the Fourth‡.

The Icelanders have a strange superstition respecting these animals. They believe them to resemble the human species more than any other creature; and that they are the offspring of *Pharoah* and his host, who were converted into Seals when they were overwhelmed in the *Red Sea*.

THE URSINE SEAL §.

The Ursine Seals are inhabitants of the islands in the neighbourhood of Kamtschatka. Here they are seen from June to September, during which time they breed and educate their young. They are said then to quit their stations, and return, some to the Asiatic, and some to the American shore, generally however keeping between lat. 50 and 56.

The males are about eight feet in length, but the females are much smaller. Their bodies are thick, decreasing somewhat towards the tail. The nose

* Penn. Brit. Zool. i. 142, 143. † Ibid. i. 139. ‡ Ibid. i. 141.

§ SYNONYMS.—*Phoca Ursina*. Linn.—Sea Cat. Griev.—Ursine Seal. Penn.—Shaw's Gen. Zool. pl. 72.

projects like that of a Pug-dog; and the eyes are large and prominent. The fore-legs are about two feet long: and the feet are formed with toes, which are covered with a naked skin, and have only the rudiments of nails, bearing somewhat the appearance of Turtles' fins. The hind-legs are rather shorter; but so fixed behind, that the animal can occasionally rub his head with them: these have five toes, separated by a web. The general colour of the hair is black; but that of the old ones is tipped with grey. The females are ash-coloured.

The Ursine Seals live in families. Every male is surrounded by a seraglio of from eight to fifty mistresses, whom he guards with the utmost jealousy. Each family keeps separate from the others, although they lie by thousands on the shores where they inhabit. These animals also swim in tribes when they take to the sea.—The males exhibit great affection towards their young, and equal tyranny towards the females. They are fierce in the protection of the former; and, should any one attempt to carry off their cub, they will stand on the defensive, while the female conveys it away in her mouth. Should she happen to drop it, the male instantly quits his enemy, falls on her, and beats her against the stones till he leaves her for dead. As soon as she recovers, she crawls to his feet in the most suppliant manner, and washes them with her tears: he, at the same time, brutally insults her misery, stalling about in the most insolent manner. But if the young is entirely carried off, he melts into the greatest

affliction, shedding tears, and shewing every mark of sorrow.

Those animals that, through age or impotence, are deserted by the females, withdraw themselves from society, and grow excessively splenetic, peevish, and quarrelsome; they become very furious, and so attached to their own stations, as to prefer even death to the loss of them. If they perceive another animal approaching them, they are instantly roused from their indolence, snap at the encroacher, and give him battle. During the fight, they insensibly intrude on the station of their neighbour, who then joins in the contest; so that at length the civil discord spreads through the whole shore, attended with hideous growls, their note of war*.—Mr. Steller, and his men, in order to try the experiment, wantonly attacked one of the seals, put out both his eyes, and irritated four or five of his neighbours by throwing stones at them. When these pursued him he ran towards the blind animal; who, hearing them approach, fell upon them with the utmost fury. Mr. Steller escaped to an adjoining eminence, from whence he observed the battle, which raged for several hours. The blind Seal attacked, without distinction, both friends and enemies; till, at length, the whole herd, taking part against him, allowed him no rest, either on shore or in the sea, out of which they more than once dragged him to land, till he was dead.

This is one of the causes of disputes among these

* Penn. Arct. Zool. i. 168.

irritable creatures. But the most serious one is when an attempt is made to seduce any of their mistresses, or a young female of the family : a battle is the sure consequence of the insult. The unhappy vanquished animal instantly loses his whole seraglio, who desert him for the victorious hero.

When only two of them are engaged they rest at intervals, lying down near each other; then, rising both at once, renew the battle. They fight with their heads erect, and turn them aside to avoid the blows. As long as their strength continues equal, they only use their fore-paws ; but the moment one of them fails, the other seizes him with his teeth, and throws him upon the ground. The wounds they inflict are very deep, and like the cut of a sabre ; and, it is said, that in the month of July scarcely one is to be seen that has not some mark of this sort. At the conclusion of an engagement, such as are able throw themselves into the sea to wash off the blood *.—They are exceedingly tenacious of life, and will live a fortnight after receiving such wounds as would soon destroy any other animal.

Besides their notes of war, they have several others. When they lie on the shore, and are diverting themselves, they low like a Cow. After victory they make a noise somewhat like the chirping of a Cricket ; and on a defeat, or after receiving a wound, they mew like a Cat.

When they come out of the water, they shake themselves, and smooth their hair with their hind-

* Griève's Kamtschatka, 127.

feet ; apply their lips to those of the females, as if to kiss them ; lie down and bask in the sun with their hind legs up, which they wag as a Dog does his tail. Sometimes they lie on their back ; and sometimes roll themselves up into a ball, and thus fall asleep.—They often swim on their back, and so near the surface of the water as frequently to have their hind-paws quite dry. When they go from the shore into the water, or when they dive, after having breathed, they, in the manner of some other sea animals, whirl themselves round like a wheel. They cut through the waves with great rapidity, frequently swimming at the rate of seven or eight miles an hour.—Their cubs are as sportive as puppies ; they have mock fights, and tumble one another on the ground. The male parent looks on with a sort of complacency, parts them, licks and kisses them, and seems to take a greater affection to the victor than to the other.

On Bering's Island these animals were found in such numbers as to cover the whole shore ; and travellers were obliged, for their own safety, to leave the sands and level country, and go over the hills and rocky parts. It is, however, remarkable, that they only frequent that part of the coast which is towards Kamischatka.—In the beginning of June they retire to the southward, to bring forth their young ; and return towards the end of August.—They seldom produce more than a single young one, which they nurse for three months*.

* Grieve, 129. Penn. Arct. Zool.

The flesh of the old males is rank, but that of the females and young is said to be exceedingly good. The skins of the young ones cut out of the bellies of the females, are in esteem for clothing, and are nearly as valuable as those of the old animals.

THE BOTTLE-NOSED SEAL *.

The male of this species measures from fifteen to twenty feet in length; and is distinguished from the female by a large snout, projecting five or six inches below the end of the upper-jaw. This snout the animal inflates when he is irritated, giving it thus the appearance of an arched or hooked nose. The skin is scattered over with a rust-coloured hair. The feet are short, and the hinder ones so webbed as to appear like fins. In the upper jaw there are only four front teeth, and in the lower jaw no more than two.—These animals are found in the seas about New Zealand, on the island of Juan Fernandez, and the Falkland Islands.

Their fat is so very considerable, as to lie at least a foot deep between the skin and the flesh; and some of the largest afford as much as will fill a butt. When the Bottle-nosed Seals are in motion, they appear almost like immense skins filled with oil; the tremulous motion of the blubber being plainly discernible beneath the surface. They have also so much blood, that, if deeply wounded in a dozen

† SYNONYMS.—*Phoca Leonina*. *Linn.*—Sea Lion. *Anson.*—Bottle-nosed Seal. *Penn.*—*Shaw's Gen. Zool. pl. 73.*

places, it will gush out at every one, and spout to a considerable distance. Lord Anson's sailors, to try the experiment, shot one of them, and obtained from it more than two hogshheads of blood.

They seem to divide their time nearly equally between the land and sea; continuing out during the summer, and coming on shore at the commencement of winter and residing there all that season. When ashore, they feed on the grass and verdure which grows on the banks of the fresh-water streams; and when not employed in feeding, they sleep in herds, in the most miry places they can find. Each herd seems to be under the direction of a large male; which the seamen ludicrously stile the Bashaw, from his driving off the other males from a number of females which he appropriates to himself. These Bashaws, however, do not arrive at this envied superiority without many bloody and dreadful contests, of which their numerous scars generally bear evidence. Their battles are very frequent; and when for the females, always extremely furious. Some of Lord Anson's party observed, one day, on the island of Juan Fernandez, what they at first took for two animals of a kind different from any they had before seen; but, on a nearer approach, they proved to be two of these Seals, which had been goring each other with their teeth till both were completely covered with blood.

They are of a lethargic disposition, and when at rest are not easily disturbed. It is not difficult to kill them; being, in general, from their sluggish and unwieldy motions, incapable either of escaping

or resisting. A sailor was, however, one day, carelessly employed in skinning one of the young; when the female from whom he had taken it, came upon him unperceived, and getting his head into her mouth, tore his skull so dreadfully, that he died in a few days afterwards.

It has been observed, that each herd places at a distance some of the males as sentinels, who never fail to give the alarm if any thing hostile approaches. The noise they make for this purpose is very loud, and may be heard at a considerable distance. Their usual voice is a kind of loud grunting; or sometimes a snorting, like horses in full vigour. The females produce two young ones in the winter, which they suckle for some time. These, when first brought forth are about the size of a full grown Common Seal.

Lord Anson's people killed many of them, in the island of Juan Fernandez, for food. They called their flesh *beef*; to distinguish it from that of the common Seal, which they denominated *lamb*. The hearts and tongues were excellent eating; and, as they thought, preferable even to those of the Ox*.

THE LEONINE SEAL.†.

The Leonine Seal has the head and eyes large. The nose turns up, somewhat like that of a Pug

* Anson, 172—175.

† SYNONYMS.—*Phoca Jubata*. *Linnaus*.—Sea-lion. *Cook*. *Forster*.—Leonine Seal. *Penn*.—*Shaw's Gen. Zool.* pl. 74.—*Bew. Quad.* 472.

Dog. The ears are conical and erect; and along the neck of the male runs a mane of stiff curled hair. The whole neck is covered with long waved hair, not unlike that of the Lion. The hair of the other parts of the body is short and red: that of the female yellowish. At a certain age they become grey. The feet resemble those of the Ursine Seal. The weight of a large male is about sixteen hundred pounds; and these are frequently from sixteen to eighteen feet long, but the females seldom exceed eight.

Leonine Seals are found in great numbers on the eastern coasts of Kamtschatka. They do not migrate; but only change their place of residence, having winter and summer stations. They live principally among the rocks of the coast; and by their dreadful roaring, are frequently of use during foggy weather, in warning sailors of the danger of approaching in their direction.

If a human being appears among them, they immediately run off; and when disturbed in sleep, they seem seized with horror, sigh deeply in their attempts to escape, fall into the utmost confusion, tumble down, and shake so violently as scarcely to be able to use their limbs. When, however, they are reduced to an extremity, and find it impossible to effect an escape, they become desperate, turn on their assailant with vast noise and fury, and will even put the most courageous man to flight.—When they find there is no intention to hurt them, they lose their fear of mankind. Steller, when he was on Bering's Island, lived in a hovel surrounded

by them, for six days. They were soon reconciled to him; and would observe, with great calmness, what he was doing, lie down near him, and even suffer him to seize and play with their cubs.—They often dispute for the possession of females; and he had an opportunity of seeing several of these conflicts. He once was witness to a duel between two males which lasted three days, and in which one of them received above a hundred wounds. The Ursine Seals which were among them never interfered, but always hastened out of the way of their battles.

They bring forth only a single young one at a birth; and, strange to say, the parents seem to exhibit towards this very little share of affection: they sometimes tread it to death through carelessness, and will suffer it to be killed before them without concern. The cubs are not sportive, like most other young animals, but seem entirely stupified by much sleep. The parents take them into the water, and teach them to swim: and when they are tired they climb on the back of their dam; but the male often pushes them off, to habituate them to this exercise.

Each male has from two to four females, which he treats with great kindness; and he seems very fond of their carresses. In their actions these animals seem much allied to the Ursine Seals. The old ones bellow like bulls, and the young bleat like sheep*.—They live on fish, and several of the marine animals. During two of the summer months

* Penn. Arct. Zool. i. 172.

the old males abstain almost entirely from eating, and indulge in indolence and sleep, swallowing at intervals large stones to keep the stomach distended *. At the end of this time they are excessively emaciated.

The chase of these animals is esteemed by the Kamtschadales an occupation of the highest honour. When they find one of them asleep, they approach it against the wind; strike a harpoon, fastened to a long cord, into its breast; and run off with the utmost precipitation. The other end of the cord being fastened to a stake, prevents the animal from running entirely off; and they principally effect his destruction by flinging their lances into him, or shooting him with arrows. As soon as he is exhausted, they venture near enough to kill him with their clubs. When one of them is discovered alone on the rocks, they shoot him with poisoned arrows. Immediately he plunges into the sea; but, unable to bear the poignancy of his wounds in the salt-water, swims to shore in the utmost agony. If a good opportunity offers, they transfix him with their lances; if not, they leave him to die of the poison.—Such is the stupidity of these people, that, esteeming it a disgrace to leave any of their game behind, they frequently overload their boats so much, as to send both their booty and themselves to the bottom. But they disdain the thought of saving themselves at the expence of any part of their prize.

* Penn. Quad. ii. 525.

The flesh of the young is said to be pleasant eating, and their fat resembles the suet of mutton, but is as delicious as marrow. The skin is used for the making of straps, shoes, and boots *.

THE DOG TRIBE.

ALL the animals belonging to this tribe are carnivorous, very swift, and well adapted for the chase; but, when urged by necessity, are able to live on vegetable food. None of them are able to climb trees. The females produce many young at a litter; and have generally ten teats, four of which are placed on the breast and six on the belly †.

The generic characters of the Dog are these:—He has six cutting-teeth in the upper jaw; those at the sides longer than the intermediate ones, which are lobated. In the under jaw there are also six cutting-teeth, the lateral being lobated. There are four canine-teeth; one on each side, both above and below: and six or seven grinders.

THE COMMON DOG ‡.

To no animal are mankind so much indebted for services and affection as to the Dog. Among all the various orders of brute creatures, no one has hither-

* Penn. Arct. Zool. i. 172. † Kerr, i. 129.

‡ SYNONYMS.—*Canis familiaris*, Linn.—Faithful Dog. Penn.

to been found so entirely adapted to our use, and even to our protection. There are many countries, both of the old and new continent, in which if man were deprived of this faithful ally, he would unsuccessfully resist the foes that surround him, seeking opportunities to destroy his labour, attack his person, and encroach upon his property. His own vigilance, in many situations, could not secure him on the one hand against their rapacity, nor on the other against their speed. The Dog, more tractable than any other animal, conforms himself to the movements and habits of life of his master. His diligence, his ardour, and his obedience, are inexhaustible; and his disposition is so friendly, that, unlike every other animal, he seems to remember only the benefits he receives. He soon forgets our blows; and instead of discovering resentment while we chastise him, he exposes himself to torture, and even licks the hand from whence it proceeds.

Dogs are found in a wild state in Congo, Lower Ethiopia, and towards the Cape of Good Hope; in South and North America, New Holland, and several other parts of the world. The female goes with young about sixty-three days, and commonly produces from four to ten at a litter. The young are usually brought forth blind: the two eye-lids are not simply glued together, but shut up with a membrane, which is torn off as soon as the muscles of the upper eye-lids acquire sufficient strength to overcome this obstacle to vision, and this is generally about the tenth or twelfth day. At this period the young animals are clumsy and awkward in their make. The

bones of the head are not completed ; the body and muzzle are bloated, and the whole figure is ill designed. But in less than two months, they acquire the use of all their senses. Their growth is rapid, and they soon gain strength. In the fourth month they lose their teeth ; which, as in other animals, are soon replaced, and never fall out again.

There are no fewer than twenty-three varieties of the Dog, among which all our domestic kinds are included. Of these the following is an enumeration :—

- | | |
|------------------------|-------------------------------|
| 1. New Holland Dog | 13. Dalmatian, or Spotted Dog |
| 2. Pomeranian Dog | |
| *3. Siberian Dog | 14. Irish Greyhound |
| 4. Iceland Dog | 15. Common Greyhound |
| 5. Water Dog | 16. Italian Greyhound |
| 6. Great Water Spaniel | 17. Naked Dog |
| *7. Newfoundland Dog | *18. Mastiff |
| 8. King Charles's Dog | *19. Bull Dog |
| 9. Maltese Dog | 20. Pug Dog |
| *10. Hound | *21. Terrier |
| *11. Blood Hound | 22. Turnspit |
| 12. Pointer | 23. Alco, or Peruvian Dog |

To dwell on the description or particular qualities of this animal, so well known to both learned and unlearned readers, would be unnecessary. Instead therefore of any eulogium on his character or uses, I shall bring forward for their amusement and instruction such well authenticated instances of his

* Those marked with an asterisk I shall have occasion particularly to notice.

sagacity, attachment, and perseverance, as I have been able to collect.

The care of the Dog in directing the steps of the blind, is highly deserving of notice. There are few persons who have not seen some of these unfortunate objects thus guided along through the winding streets of a town or city, to the spot where they are to supplicate charity of passengers. In the evening the Dog safely conducts his master back, and receives as the reward of its services that scanty pittance which wretchedness can bestow.—Mr. Ray, in his *Synopsis of Quadrupeds*, informs us of a blind beggar who was thus led through the streets of Rome by a middle-sized Dog. This Dog, besides leading his master in such a manner as to protect him from all danger, learned to distinguish both the streets and houses where he was accustomed to receive alms twice or thrice a-week. Whenever the animal came to any one of these streets, with which he was well acquainted, he would not leave it till a call had been made at every house where his master was usually successful in his petitions. When the beggar began to ask alms, the Dog lay down to rest; but the man was no sooner served or refused, than the Dog rose spontaneously, and without either order or sign, proceeded to the other houses where the beggar generally received some gratuity. “I observed (says he), not without pleasure and surprise, that when a halfpenny was thrown from a window, such was the sagacity and attention of this Dog, that he went about in quest of it, took it from the ground with his mouth, and put it into

the blind man's hat. Even when bread was thrown down, the animal would not taste it, unless he received it from the hand of his master."

Dogs can be taught to go to market with money, to repair to a known shop, and carry home provisions in safety.—Some years since, the person who lives at the turnpike-house about a mile from Stratford on Avon, had trained a Dog to go to the town for any small articles of grocery, &c. that he wanted. A note mentioning the things, was tied round the Dog's neck, and in the same manner the articles were fastened; and in these errands the commodities were always brought safe to his master *.

A grocer in Edinburgh had a Dog, which for some time amused and astonished the people in the neighbourhood. A man who went through the streets ringing a bell and selling penny pies, happened one day to treat this Dog with a pie. The next time he heard the pie-man's bell, he ran to him with impetuosity, seized him by the coat, and would not suffer him to pass. The pie-man, who understood what the animal wanted, shewed him a penny, and pointed to his master, who stood at the street-door and saw what was going on. The Dog immediately supplicated his master by many humble gestures and looks. The master put a penny into the Dog's mouth, which he instantly delivered to the pie-man, and received his pie. This traffic between the pie-man and the grocer's Dog continued to be daily practised for many months †.

* Daniel, i. 21.

† Smellie's Philosophy of Natural History.

At a convent in France, twenty paupers were served with a dinner at a certain hour every day. A Dog belonging to the convent did not fail to be present at this regale, to receive the odds and ends which were now and then thrown down to him. The guests, however, were poor and hungry, and of course not very wasteful, so that their pensioner did little more than scent the feast of which he would fain have partaken. The portions were served by a person, at the ringing of a bell, and delivered out by means of what in religious houses is called a *tour*; which is a machine like the section of a cask, and, by turning round upon a pivot, exhibits whatever is placed on the concave side, without discovering the person who moves it. One day this Dog, who had only received a few scraps, waited till the paupers were all gone, took the rope in his mouth, and rang the bell. His stratagem succeeded. He repeated it the next day with the same good-fortune. At length the cook, finding that twenty-one portions were given out instead of twenty, was determined to discover the trick: in doing which he had no great difficulty; for lying *perdu*, and noticing the paupers as they came in great regularity for their different portions, and that there was no intruder except the Dog, he began to suspect the real truth, which he was confirmed in when he saw him wait with great deliberation till the visitors were all gone and then pull the bell. The matter was related to the community; and to reward him for his ingenuity, he was permitted to ring the bell every day

for his dinner, when a mess of broken victuals was purposely served out to him *.

In the year 1760, the following incident, illustrative of the sagacity of the Dog, occurred near Hammersmith :—While a man of the name of Richardson, a waterman of that place, was sleeping in his boat, the vessel broke from her moorings, and was carried by the tide, under a West-country barge. Fortunately for the man, his Dog happened to be with him ; and the sagacious animal awakened him by pawing his face, and pulling the collar of his coat, at the instant the boat was filling with water : he seized the opportunity, and thus saved himself from otherwise inevitable death †.

In the year 1791, a person went to a house in Deptford, to take lodgings, under pretence that he had just arrived from the West Indies ; and, after having agreed on the terms, said he should send his trunk that night, and come himself the next day. About nine o'clock in the evening, the trunk was brought by two porters, and was carried into his bed-room. Just as the family were going to bed, their little house-dog, deserting his usual station in the shop, placed himself close to the chamber-door where the chest was deposited, and kept up an incessant barking. The moment the chamber-door was opened, the dog flew to the chest, against which it scratched and barked with redoubled fury. They attempted to get the dog out of

* Dibdin's Observations in a Tour through England.

† Ann. Reg. iii. 90.

the room, but in vain. Calling in some neighbours, and making them eye-witnesses of the circumstance, they began to move the trunk about; when they quickly discovered that it contained something that was alive. Suspicion becoming very strong, they were induced to force it open; when, to their utter astonishment, they found in it their new lodger, who had been thus conveyed into the house with the intention of robbing it.

A Dog that had been the favourite of an elderly lady, discovered some time after her death the strongest emotions on the sight of her picture, when it was taken down to be cleaned. Before this instant he had never been observed to notice the painting. Here was evidently a case either of passive remembrance, or of the involuntary renewal of former impressions.—Another Dog, the property of a gentleman that died, was given to a friend in Yorkshire. Several years afterwards, a brother from the West Indies, paid a short visit at the house where the Dog then was. He was instantly recognized, though an entire stranger, in consequence, most probably, of a strong personal likeness. The Dog fawned upon and followed him with great affection to every place where he went*.

During M. Le Vaillant's travels in Africa, he one day missed a favourite little Bitch that he had taken out with him. After much shouting and firing of guns, in order to make her hear, if possible, where the party was, he directed one of his Hottentots to

* Percival's Father's Instructions.

mount a horse and return some distance in search of her. In about four hours the man appeared with her on his saddle, bringing with him at the same time a chair and a basket that had been unknowingly dropped from one of the waggons. The Bitch was found at the distance of about two leagues, lying in the road, and watching the lost chair and basket; and had the man been unsuccessful in his pursuit, she must unavoidably either have perished with hunger, or fallen a prey to some of the wild beasts, with which these plains abound*.

Mr. C. Hughes, a son of Thespis, had a wig which generally hung on a peg in one of his rooms. He one day lent the wig to a brother player, and some time after called on him. Mr. Hughes had his Dog with him, and the man happened to have the borrowed wig on his head. Mr. Hughes stayed a little while with his friend; but, when he left him, the Dog remained behind: for some time he stood, looking full in the man's face; then making a sudden spring, leaped on his shoulders, seized the wig, and ran off with it as fast as he could; and, when he reached home, he endeavoured by jumping to hang it up in its usual place.—The same Dog was one afternoon passing through a field in the skirts of Dartmouth, where a washer woman had hung out her linen to dry. He stopped and surveyed one particular shirt with attention; then seizing it, he dragged it away through the dirt to his master, whose shirt it proved to be †.

* Le Vaillant, vol. i. p. 251.

† Life of James Lackington.

In December, 1784, a Dog was left by a smuggling vessel near Boomer, on the coast of Northumberland. Finding himself deserted, he began to worry the sheep; and did so much damage, that he became the terror of the country for a circuit of above twenty miles. We are assured, that when he caught a sheep, he bit a hole in its right side, and after eating the fat about the kidneys, left it. Several, thus lacerated, were found alive by the shepherds; and being properly attended to, some of them recovered and afterwards had lambs. From his delicacy in this respect, the destruction he made may in some measure be conceived; as it may be supposed, that the fat of one sheep a-day would hardly satisfy his hunger. The farmers were so much alarmed by his depredations, that various means were taken for his destruction. They pursued him with Hounds, Greyhounds, &c. but, when the Dogs came up to him, he lay down on his back, as if supplicating for mercy, and in that position they did not attempt to hurt him. He therefore used to lie quietly till the men approached; when he made off, without being followed by the hounds till they were again excited to the pursuit, which always terminated unsuccessfully. He was one day pursued from Howick to the distance of upwards of thirty miles; but returned thither and killed sheep the same evening. His constant residence during the day, was upon a rock on the Heugh-hill, near Howick, where he had a view of four roads that approached it; and in March, 1785, after many fruitless attempts, he was at last shot there*.

* Bew. Quad. 305.

In one part of his journey through North America, Mr. Bartram observed, on an extensive lawn, a troop of horses that were feeding, and under the controul only of a single black Dog, similar, in every respect to the Wolf of Florida, except that he was able to bark like a common Dog. He was very careful and industrious in keeping together his charge; and, if any one strolled from the rest to too great a distance, the Dog would spring up, head the horse, and bring him back to the company. The proprietor of these horses was an Indian, who lived about ten miles from this place; who, from a whim, and for the sake of experiment, had trained his Dog to this business from a puppy. He followed his master's horses only, keeping them in a separate company where they ranged; and when he found himself hungry, or wanted to see his master, in the evening he returned to the town where he lived, but never stayed from home at night*.

In South America multitudes of Dogs breed in holes like Rabbits. When these are found young, they instantly attach themselves to mankind, and never desert their masters to rejoin the society of wild Dogs, their former companions. These Dogs have the appearance of the Greyhound, carry their ears erect, are very vigilant, and excellent in the chace†.

* Travels in North America.

† Pennant; who quotes Narr. of Distresses of Isaac Morris, &c. belonging to the Wager Store-ship of Anson's Squadron, p. 27.

Some nations admire the Dog as food. In some of the South Sea islands Dogs are fattened with vegetables, which the natives savagely cram down their throats when they will voluntarily eat no more. They become exceedingly fat; and are allowed by Europeans who have overcome their prejudices, to be very palatable. They are killed by strangling; and the extravasated blood is preserved in cocoa-nut shells, and baked for the table *.—The negroes of the coast of Guinea are so partial to these animals as food, that they frequently give considerable prices for them: a large Sheep for a Dog was formerly, and probably is now, a common article of exchange †.—Even the ancients esteemed a young and fat Dog to be excellent eating. Hippocrates ranks it with mutton or pork. The Romans admired sucking whelps, esteeming them a supper in which even the Gods delighted ‡.

The *Siberian Dog* §, which is not uncommon in any of the climates about the Arctic Circle, is used in Kamtschatka for drawing sledges over the frozen snow. These sledges generally carry only a single person, who sits sideways. The number of Dogs usually employed is five: four of them are yoked two and two, and the other acts as leader ||. The reins are fastened, not to the head, but to the collar; and the driver has, therefore, to depend prin-

* Daniel, i. 8.

† Bosman, 229.

‡ Daniel, i. 8.

§ Greenland Dog. *Bew. Quad.* 303.

|| In carrying baggage, or heavy burthens, the number of Dogs employed is seldom less than ten

cipally on their obedience to his voice. Great care and attention are consequently necessary in training the leader ; which, if he is steady and docile, becomes very valuable, the sum of forty roubles (or ten pounds) being no uncommon price for one of them.

The cry of *tagtag, tagtag*, turns him to the right ; and *hougha, hougha*, to the left. The intelligent animal immediately understands the words, and gives to the rest the example of obedience. *Ah, ah*, stops the Dogs ; and *ha*, makes them set off.

The charioteer carries in his hand a crooked stick, which answers the purpose both of whip and reins. Iron-rings are suspended at one end of this stick ; by way of ornament, and to encourage the Dogs by their noise, for they are frequently jingled for that purpose. If the Dogs are well trained, it is not necessary for the rider to exercise his voice : if he strikes the ice with his stick, they will go to the left ; if he strikes the legs of the sledge they will go to the right ; and when he wishes them to stop, he has only to place the stick between the snow and the front of the sledge. When they are inattentive to their duty, the charioteer often chastizes them, by throwing this stick at them. The dexterity of the riders, in picking it up again, is very remarkable, and is the most difficult manœuvre in this exercise : nor is it, indeed, surprising that they should be skilful in a practice in which they are so materially interested ; for the moment the Dogs find that the driver has lost his stick, unless the leader is both steady and resolute, they set off at full speed,

and never stop till either their strength is exhausted, or till the carriage is overturned and dashed to pieces, or hurried down a precipice, when all are buried in the snow.

The manner in which they are generally treated, seems but ill calculated for securing their attachment. During the winter they are fed sparingly with putrid fish; and in summer are turned loose, to shift for themselves, till the return of the severe season renders it necessary to the master's interest that they should be taken again into custody, and brought once more to their state of toil and slavery. When yoking to the sledge, they utter the most dismal howlings; but, when every thing is prepared, a kind of cheerful yelping succeeds, which ceases the instant they begin their journey *.

These animals have been known to perform, in three days and a half, a journey of almost two hundred and seventy miles. And scarcely are Horses more useful to Europeans, than these Dogs are to the inhabitants of the frozen and cheerless regions of the North. When, during the most severe storm, their master cannot see the path, nor even keep his eyes open, they very seldom miss their way: whenever they do this, they go from one side to the other, till, by their smell, they regain it; and when in the midst of a long journey, as it often happens, it is found absolutely impossible to travel any farther, the Dogs, lying round their master, will keep him warm, and defend him from all danger. They

* Cook's last Voyage. Lessep, i. 115.

also foretell an approaching storm, by stopping and scraping the snow with their feet ; in which case it is always advisable, without delay, to look out for some village, or other place of safety *.

The *Newfoundland Dogs* † were originally brought from the country of which they bear the name; where their great strength and docility render them extremely useful to the settlers, who employ them in bringing down wood, on sledges, from the interior parts of the country to the sea-coast. They have great strength, and are able to draw very considerable weights. Four of them yoked to a sledge will trail three hundred-weight of wood, with apparent ease, for several miles. Their docility is as material to their owners as their strength ; for they frequently perform these services without a driver. As soon as they are relieved of their load at the proper place, they return in the same order to the woods from whence they were dispatched ; where their labours are commonly rewarded with a meal of dried fish ‡.

They are web-footed ; and can swim extremely fast, and with great ease.—Their extraordinary sagacity and attachment to their masters, render them, in particular situations, highly valuable.

In the summer of 1792, a gentleman went to Portsmouth for the benefit of sea-bathing. He was conducted in one of the machines into the water ; but being unacquainted with the steepness of the shore, and no swimmer, he found himself, the instant he

* Grieve, 107.

† Bew. Quad. 326.

‡ Church.

quitted the machine, nearly out of his depth. The state of alarm into which he was thrown, increased his danger; and, unnoticed by the person who attended the machine, he would unavoidably have been drowned, had not a large Newfoundland Dog, which by accident was standing on the shore and observed his distress, plunged in to his assistance. The Dog seized him by the hair, and conducted him safely to the shore; but it was some time before he recovered. The gentleman afterwards purchased the Dog at a high price; and preserved him as a treasure of equal value with his whole fortune.

During a severe storm, in the winter of 1789, a ship belonging to Newcastle was lost near Yarmouth; and a Newfoundland Dog alone escaped to shore, bringing in his mouth the captain's pocket-book. He landed amidst a number of people, several of whom in vain attempted to take from him his prize. The sagacious animal, as if sensible of the importance of the charge, which, in all probability, was delivered to him by his perishing master, at length leapt fawningly against the breast of a man who had attracted his notice among the crowd, and delivered the book to him. The Dog immediately returned to the place where he had landed; and watched with great attention for all the things that came from the wrecked vessel, seizing them, and endeavouring to bring them to land.

A gentleman, walking by the side of the River Tyne, observed, on the opposite side, that a child had fallen into the water: he pointed out the ob-

ject to his Dog, which immediately jumped in, swam over, and, catching hold of the child with his mouth, landed it safely on the shore *.

The following anecdote, among the immense numbers that have been recorded, affords a proof of the wonderful spirit of the *Hound*, in supporting a continuance of exertion :—“ Many years since, a very large Stag was turned out of Whinfield Park, in the county of Westmoreland ; and was pursued by the Hounds, till, by fatigue or accident, the whole pack was thrown out, except two staunch and favourite Dogs, which continued the chase the greatest part of the day. The Stag returned to the park from whence he set out ; and, as his last effort, leapt the wall, and immediately expired. One of the Hounds pursued him to the wall ; but being unable to get over, lay down, and almost immediately expired : the other was also found dead at a little distance.

“ The length of the chase is uncertain : but, as they were seen at Red-kirks, near Annan in Scotland, (distant, by the post-road, about forty-six miles,) it is conjectured that the circuitous and uneven course they might be supposed to take, would not be less than *one hundred and twenty miles !*

“ To commemorate this fact, the horns of the Stag, which were the largest ever seen in that part of the country, were placed on a tree of enormous size in the park (afterwards called Hart-Lorn tree).

* Bew, Quad. 327.

The horns have been since removed ; and are now at Julian's-bower, in the same county.

The *Blood-hound* was in great request with our ancestors ; and as he was remarkable for the fineness of his scent, he was frequently employed in recovering game that had escaped wounded from the hunter. He would follow, with great certainty, the footsteps of a man to a considerable distance : and, in barbarous and uncivilized times, when a thief or murderer had fled, this useful creature would find him through the thickest and most secret coverts ; nor would he cease his pursuit till he had taken the felon. For this reason there was a law in Scotland, that whoever denied entrance to one of these Dogs in pursuit of stolen goods, should be deemed an accessory.

Blood hounds were formerly used in certain districts lying between England and Scotland, which were much infested by robbers and murderers : and a tax was laid on the inhabitants, for keeping and maintaining a certain number of these animals. But as the arm of justice is now extended over every part of the country, and there are no secret recesses where villainy can lie concealed, their services are become no longer necessary.

Some few of these Dogs are kept in the northern parts of the kingdom, and are used in pursuit of Deer that have been previously wounded ; they are

also sometimes employed in discovering Deer-stealers, whom they infallibly trace by the blood that issues from the wounds of their victims.

A person of quality, (says Mr. Boyle,) to make trial whether a young Blood-hound was well instructed, caused one of his servants to walk to a town four miles off, and then to a market town three miles from thence. The Dog, without seeing the man he was to pursue, followed him by the scent to the above-mentioned places, notwithstanding the multitude of market-people that went along the same road, and of travellers that had occasion to cross it; and when the Blood-hound came to the chief market-town, he passed through the streets without taking notice of any of the people there; and ceased not till he had gone to the house where the man he sought rested himself, and where he found him in an upper room, to the wonder of those who had accompanied him in this pursuit *.

The Blood-hounds are very tall, most beautifully formed, and superior to every other kind in activity, speed, and sagacity. They seldom bark, except in the chace. They are usually of a reddish, or brown colour.—Somerville has finely described their mode of pursuing the nightly spoiler :

Soon the sagacious brute, his curling tail
Flourish'd in air, low bending, plies around
His busy nose, the steaming vapour snuffs

* Boyle, i. 429.

Inquisitive, nor leaves one turf untried,
Till, conscious of the recent stains, his heart
Beats quick ; his snuffing nose, his active tail,
Attest his joy : then with deep-opening mouth
That makes the welkin tremble, he proclaims
Th' audacious felon : Foot by foot he marks
His winding way, while all the list'ning crowd
Applaud his reasonings : o'er the wat'ry ford,
Dry sandy heaths, and stony barren hills ;
O'er beaten paths, with men and beast distain'd ;
Unerring he pursues ;---till at the cot
Arriv'd, and seizing by his guilty throat
The caitiff vile, redeems the captive prey.
So exquisitely delicate his sense !

Mustiffs * are peculiar to this country, where they are principally of use as watch Dogs ; a duty which they discharge not only with great fidelity, but frequently with considerable judgment. Some of them will suffer a stranger to come into the inclosure they are appointed to guard, and will go peaceably along with him through every part of it, so long as he continues to touch nothing ; but the moment he attempts to lay hold of any of the goods, or endeavours to leave the place, the animal informs him, first by gentle growling, or, if that is ineffectual, by harsher means, that he must neither do mischief, nor go away. He seldom uses violence unless resisted ; and even in this case he will sometimes seize the person, throw him down, and hold him there for hours, or until relieved, without biting him †.

* Bew. Quad. 207.

† Kerr, i. 123.

A most extraordinary instance of memory in a Mastiff is related by M. D'Obsonville. This Dog, which he had brought up in India from two months old, accompanied himself and a friend from Pondicherry to Benglour, a distance of more than three hundred leagues. "Our journey (he continues) occupied nearly three weeks; and we had to traverse plains and mountains, and to ford rivers, and go along several bye-paths. The animal, which had certainly never been in that country before, lost us at Benglour, and immediately returned to Pondicherry. He went directly to the house of M. Beylier, then commandant of artillery, my friend, and with whom I had generally lived. Now the difficulty is, not so much to know how the Dog subsisted on the road, for he was very strong and able to procure himself food; but how he should so well have found his way, after an interval of more than a month *! This was an effort of memory greatly superior to that which the human race is capable of exerting."

The Mastiff is extremely bold and courageous. Stow relates an instance of a contest between three Mastiffs and a Lion, in the presence of King James the First. One of the Dogs, being put into the den, was soon disabled by the Lion; which took him by the head and neck, and dragged him about. Another Dog was then let loose; and was served in the same manner. But the third, being put in, immediately seized the Lion by the lip, and held him

* D'Obsonville, 74.

for a considerable time ; till, being severely torn by his claws, the Dog was obliged to quit his hold. The Lion, greatly exhausted by the conflict, refused to renew the engagement ; but, taking a sudden leap over the Dogs, fled into the interior part of his den. Two of the Dogs soon died of their wounds : the last survived, and was taken great care of by the king's son ; who said, "*He that had fought with the king of beasts should never after fight with any inferior creature *.*"

This animal, conscious of his superior strength, has been known to chastise, with great dignity, the impertinence of an inferior.—A large Dog of this kind, belonging to the late M. Ridley, Esq. of Heaton near Newcastle, being frequently molested by a Mongrel, and teased by its continual barking, at last took it up in his mouth by the back, and with great composure dropped it over the quay into the river, without doing any farther injury to an enemy so contemptible †.

The *Bull-dog* ‡ is the fiercest of the species, and is probably the most courageous creature in the world. His valour in attacking a Bull is well known. His fury in seizing, and his invincible obstinacy in maintaining his hold, are truly astonishing. Some years ago, at a Bull-baiting in the North of England, when that barbarous custom was more prevalent than it is at present, a young man, confident of the cou-

* Stow's Annals.

† Bew. Quad. 308,

‡ Bew. Quad. 306.

rage of his Dog, laid some trifling wagers that he would, at separate times, even cut off all the animal's feet ; and that, after every successive amputation, he would attack the Bull. The cruel and unmanly experiment was tried ; and the Dog continued to seize the Bull with the same eagerness as before *.

The *Terrier* † has a most acute smell ; and is the natural enemy of the smaller quadrupeds, as Rats, Mice, Weasels. &c. He possesses so much courage as to attack even the Badger ; and though sometimes very roughly used, he sustains the combat with determined fortitude.

An anecdote related by Mr. Hope, and well authenticated by other persons, shews also that this animal is both capable of resentment when injured, and of great contrivance to accomplish it. A gentleman of Whitmore in Staffordshire, used to come twice a year to Town ; and being fond of exercise, generally performed the journey on Horseback, accompanied most part of the way by a faithful little Terrier Dog, which, lest he might lose it in Town, he always left to the care of Mrs. Langford, his landlady at St. Alban's ; and on his return he was sure to find his little companion well taken care of. The gentleman calling one time, as usual, for his Dog, Mrs. Langford appeared before him with a woeful countenance :—‘ Alas ! Sir, your Terrier is lost ! Our great House-dog and he had a quarrel ; and the poor

* Goldsmith.

† Bew. Quad. 215.

Terrier was so worried and bit before we could part them, that I thought he could never have got the better of it. He however crawled out of the yard, and no one saw him for almost a week. He then returned, and brought with him another Dog, bigger by far than ours ; and they both together fell on our great Dog, and bit him so unmercifully, that he has scarcely since been able to go about the yard, or to eat his meat. Your Dog and his companion then disappeared, and have never since been seen at St. Alban's.* The gentleman heard the story with patience, and endeavoured to reconcile himself to the loss. On his arrival at Whitmore, he found his little Terrier ; and on enquiring into circumstances, was informed that he had been at Whitmore and had coaxed away the great Dog, who it seems had, in consequence, followed him to St. Alban's and completely avenged his injury*.

In Japan the Dogs are amazingly numerous ; they lie about the streets, and are very troublesome to passengers. In Kaempfer's time the Emperor was so fond of these animals, as to cause huts to be built, and food to be provided for them, in every street ; the utmost care was taken of them during sickness, and when they died they were carried to the usual burying places on the tops of mountains. This at-

* An enquiry respecting this circumstance, has lately been made, of Mr. Langford, surgeon, in St. Alban's. He says that there is now living in St. Alban's, one of the inn servants, who has a perfect recollection of the event.

attention to the species arose merely from the superstitious whim of one of the late Emperors, who happened to be born under the sign of the Dog, one of the Japanese constellations. A poor fellow, that had lost his Dog by death, sweating under his load in climbing the mountain of interment, was overheard by his neighbour cursing, at a dreadful rate, the edict. "Friend, (said his neighbour,) you have reason to thank the Gods that the Emperor was not born under the Horse; for what would have then been your load!" If these animals happen to do any injury, none but the public executioner dare presume to punish them; and it is even necessary for him to receive a direct order for the purpose from some of the governors *.

It is singular that the race of European Dogs shew as great an antipathy to the American species, as they do to the Wolf. They never meet with them without exhibiting every possible sign of dislike; they will fall on and worry them; while the Wolfish breed, with every mark of timidity, puts its tail between its legs, and runs from their rage. This aversion to the Wolf is natural to all genuine Dogs: for it is well known that a Whelp, that has never seen a Wolf, will at first sight tremble and run to its master for protection; an old Dog will naturally attack it †.

The sagacity and attention of the Dog is so great, that it is not difficult to teach him to dance, hunt,

* Kaempfer, i. 125.

† Penn. Arct. Zool. i. 42.

leap, and exhibit a thousand pleasing dexterities. The dancing dogs at Sadler's Wells were curiously instructed. After storming a fort, and performing various other feats, one of them was brought in as a deserter, was shot, and carried off as dead by his companions. The mode in which a Dog is taught to point out different cards that are placed near him (a common trick) is this.—He is first taught, by repeated trials, to know something by a certain mark ; and then to distinguish one ace from another. Food is frequently offered to him on a card he is unacquainted with, after which he is sent to search it out from the pack ; and after a little experience he never mistakes. Profiting by the discovery of receiving food and caresses as a reward for his care, he soon becomes able to know each particular card ; which, when it is called for, he brings with an air of gaiety, and without any confusion : and in reality, it is no more surprising to see a Dog distinguish one card from thirty others, than it is to see him distinguish in the street his master's door from those of his neighbours *.

It is recorded of a Dog belonging to a nobleman of the Medici family, that it always attended at its master's table; changed the plates for him; and carried him his wine in a glass placed on a salver, without spilling the smallest drop. It would also hold the stirrup in its teeth while its master was mounting his horse.

* Goldsmith.

Plutarch relates, that, in the theatre of Marcellus, a Dog was exhibited before the Emperor Vespasian, so well instructed as to excel in every kind of dance. He afterwards feigned illness in so natural a manner as to strike the spectators with astonishment: first shewing symptoms of pain; then falling down as if dead, and suffering himself to be carried about in that state; and afterwards, at the proper time, seeming to revive as if waking from a profound sleep; and then sporting about and shewing every demonstration of joy.

But of all the educational attainments by which the Dog has been distinguished, that of learning to speak seems the most extraordinary. The French academicians, however, make mention of a Dog in Germany, which would call, in an intelligible manner, for tea, coffee, chocolate, &c. The account is from no less eminent a person than the celebrated Leibnitz, who communicated it to the Royal Academy of France. This Dog was of a middling size, and was the property of a peasant in Saxony. A little boy, the peasant's son, imagined that he perceived in the Dog's voice an indistinct resemblance to certain words; and therefore took it into his head to teach him to speak. For this purpose he spared neither time nor pains with his pupil, who was about three years old when this his learned education commenced; and at length he made such a progress in language, as to be able to articulate so many as thirty words. It appears, however, that he was somewhat of a truant, and did not very willingly exert his talents, being in a manner pressed into the service of litera-

ture ; and it was necessary that the words should be first pronounced to him each time, which he then echoed from his preceptor. Leibnitz, however, declares that he himself heard him speak ; and the French academicians add, that unless they had received the testimony of so great a man as Leibnitz, they should scarcely have dared to report the circumstance. This wonderful Dog was born at Zeitz in Misnia, in Saxony *.

A little Dog, if advices from Sweden may be credited, was some years ago exhibited at Stockholm, which had been taught to speak many words, and to utter even complete sentences, in French and Swedish. *Vive le Roi* he uttered very gracefully †.

The sensibility ascribed to the faithful Dog of Ulysses, shews how deeply and justly mankind have been impressed with the noble character of these dutiful and affectionate creatures, even from the most remote periods of antiquity.

He knew his lord : he knew, and strove to meet ;
 In vain he strove to crawl and kiss his feet ;
 Yet---all he could---his tail, his ears, his eyes,
 Salute his master, and confess his joys.
 Oh had you seen him vigorous, bold, and young,
 Swift as a Stag, and as a Lion strong !
 Him no fell savage on the plain withstood,
 None 'scap'd him bosom'd in the gloomy wood.
 His eye how piercing, and his scent how true
 To wind the vapour in the tainted dew !

* Shaw's Gen. Zool. vol. i. p. 289. † Gent. Mag. xxxv. 487.

This Dog, whom fate thus granted to behold
 His lord, when twenty tedious years had roll'd,
 Takes a last look, and, having seen him, dies---
 So clos'd, for ever, faithful Argus' eyes.
 Then pity touch'd the mighty master's soul,
 And down his cheek a tear unbidden stole.

THE WOLF *.

The Wolf is larger, and more strong and muscular, than the Dog; and his colour is generally pale grey. These animals are natives of almost all the temperate and cold regions of the globe: and were formerly so numerous in this island, that King Edgar commuted the punishments for certain offences into a requisition of a number of Wolves' tongues from each criminal; and he converted a very heavy tax on one of the Welsh princes, into an annual tribute of three hundred Wolves' heads.

Cambria's proud kings (though with reluctance) paid
 Their tributary Wolves; head after head,
 In full account, till the woods yield no more,
 And all the ravenous race extinct is lost.

It appears from Hollinshed, that the Wolves were very noxious to the flocks in Scotland, in 1577: nor were they entirely destroyed till about a century afterwards; when the last Wolf fell in Lochaber, by the hand of Sir Ewen Cameron, of Locheil.

* SYNONYMS.—*Canis Lupus*. Linn.—Loup. *Ruſſon*.—*Shaw's Gen. Zool. pl. 75*.—*Bew. Quad. 285*.

Wolves are now but rarely seen in the inhabited parts of America ; yet the government of Pennsylvania some years ago allowed a reward of twenty shillings, and that of New Jersey of even thirty shillings, for the killing of every Wolf. Tradition informed them what a scourge these animals had been to the colonies, and by these means they wisely determined to prevent the evil. In the infant state of the colonies it is said that Wolves came down from the mountains, often attracted by the smell of the bodies of the hundreds of Indians who died of the small-pox : but the animals did not confine their insults to the dead, they even devoured, in their huts, the sick and dying natives *.

When pressed by hunger, the Wolf, though naturally a coward, becomes courageous from necessity : he then braves every danger, and will venture to attack even the Buffalo. Sometimes whole droves of them descend upon the sheep-folds ; and, digging the earth under the doors, enter with dreadful ferocity, and put to death every living creature before they depart.

“ By wintry famine rous’d, from all the tract
Of horrid mountains which the shining Alps
And wavy Appenine and Pyrenees
Branch out stupendous into distant lands,
Cruel as death ! and hungry as the grave !
Burning for blood ! bony, and gaunt, and grim !
Assembling Wolves, in raging troops, descend ;
And, pouring o’er the country, bear along,
Keen as the North wind sweeps the glossy snow :
All is their prize.”

* Penn. Arct. Zool. i. 39.

Although the Wolf is the most gluttonous of quadrupeds, devouring even his own species when pressed by hunger, yet his rapacity does not exceed his cunning; always suspicious and mistrustful, he imagines every thing he sees is a snare laid to betray him. If he finds a Rein-deer tied to a post, to be milked, he dares not approach, lest the animal should be placed there only to entrap him; but no sooner is the Deer set at large, than he instantly pursues and devours it*. Such however is his extreme cowardice, that should the animal stand at bay, and act on the defensive, he will scarcely dare to attack it. A Cow or Goat, by turning upon and butting him with its horns, has often been known to put him to flight†.

In Norway the Wolves are frequently killed by means of a poisonous species of Lichen‡, which the inhabitants put into the dead body of some animal and lay in their haunt. Sometimes they are caught by means of a hole dug in the ground, and covered with a trap-door; which falls and lets them in, and afterwards shuts again. In these pits the cowardly animal has been found in a corner, along with other beasts, which his fears would not suffer him to touch. Instances have occurred even of peasants falling into these traps, and sitting quietly with a Wolf till released by the hunter§.

* Schaeffer, 334.

† Pontoppidan, ii. 18.

‡ Lichen Vulpinum of Linnæus.

§ Pontoppidan, ii. 19.

The Wolf has great strength, especially in the muscles of his neck and jaws : he can carry a Sheep in his mouth, and run off with it without any difficulty. When reduced to extremity by hunger, we are told by Pontoppidan that he will swallow great quantities of mud, in order to allay the uneasy sensations of his stomach. His sense of smelling is peculiarly strong : he scents the track of animals, and follows it with great perseverance. The odour of carrion strikes him at the distance of near a league.

In the year 1761, an animal of this kind committed peculiar ravages in some particular districts of Gevaudan in Languedoc, and became the terror of the whole country. If the accounts then given in the Paris Gazette may be trusted, he was known to have destroyed at least twenty persons, chiefly women and children. With the usual aggravation of popular description, he was represented by some who had seen him, as far surpassing in size the rest of his species, and as striped somewhat in the manner of a Tiger. Public prayers are said to have been offered up for his destruction.

Notwithstanding the savage nature of the Wolf, he is still capable, when taken young, of being tamed. A remarkable instance of this, we are told, was exhibited in a Wolf belonging to the late Sir Ashton Lever ; which, by proper education, was entirely divested of the ferocious character of its species. In the East, and particularly in Persia, Wolves are exhibited as spectacles to the people. When young, they are taught to dance, or rather to perform a kind

of wrestling, with a number of men. Chardin tells us, that a Wolf well educated in dancing is sold for five hundred French crowns. The Comte de Buffon brought up several of them.—When young, or during the first year, (he informs us,) they are very docile, and even caressing; and if well fed, will neither disturb the poultry, nor any other animals; but, at the age of eighteen months, or two years, their natural ferocity begins to appear, and they must be chained to prevent them from running off and doing mischief. He brought up one till it was eighteen or nineteen months old, in a court along with fowls, none of which it ever attacked; but, for its first essay, it killed the whole in one night, without eating any of them. Another, having broken his chain, ran off, after killing a Dog with whom he had lived in great familiarity*.

Wolves, sometimes in the Northern parts of the world, get on the ice of the sea, during the spring, in quest of the young Seals, which they catch asleep there. But this repast frequently proves fatal to them; for the ice, detached from the shore, carries them to a great distance from the land before they are sensible of it. It is said that, in some years, a large district is, by this means, delivered from these pernicious beasts; which are then heard howling in a most dreadful manner far out at sea.

Their time of gestation is about three months and a half; and when the females are about to bring forth, they search for some concealed place

* Buff. Quad.

in the inmost recesses of the forests. After having fixed on the spot, they make it smooth and plain for a considerable space, by tearing up with their teeth all the brambles and brushwood. They then prepare a bed of moss, in which they bring forth five or six young. The mother suckles them for some weeks ; and soon teaches them to eat flesh, which she prepares by tearing it into small pieces. She then brings them Field-mice, young Hares, Partridges, and living Fowls ; which they at first play with, and then kill : when this is done, she tears them to pieces, and gives a part to each of her young. In about six weeks these leave their den, and follow the mother, who leads them abroad to some neighbouring pool to drink ; she conducts them back again, or, when any danger is apprehended, obliges them to conceal themselves elsewhere. When they are attacked, she defends them with intrepidity ; losing every sense of danger, and becoming perfectly furious. She never leaves them till their education is finished, and they have acquired talents fit for rapine.

In the Wolf there is nothing valuable but his skin, which makes a warm and durable fur. His flesh is so bad, that it is rejected with abhorrence by all other quadrupeds ; and no animal but a Wolf will voluntarily eat a Wolf. The smell of his breath is excessively offensive : since, to appease hunger, he swallows, almost indiscriminately, every thing he can find ; as corrupted flesh, bones, hair, and skins half tanned, and even covered with lime. In short, the Wolf is in an extreme degree disagreeable ; his as-

pect is savage, his voice dreadful, his stench insupportable, his disposition perverse, his manners ferocious : destructive, and odious to mankind while living ; and when dead, of little use.

THE HYÆNA *.

The Hyæna is a native of Asiatic Turkey, Syria, Persia, and many parts of Africa. It is about the size of a large Dog, of a pale greyish brown, and marked across with several distant blackish bands. The hair of its neck is erect, and is continued in a bristly mane along the back. The tail is rather short, and very bushy. The head is broad and flat, and the eyes have an expression of great wildness and ferocity.

The ancients entertained many absurd notions respecting this animal. They believed that its neck consisted of but one bone, which was without a joint ; that it every year changed its sex ; that it could imitate the human voice, and had thus the power of charming the shepherds, and rivetting them to the place on which they stood.

The Hyænas generally inhabit caverns and rocky places ; prowling about in the night to feed on the remains of dead animals, or on whatever living prey they can seize. They violate the repositories of the dead, and greedily devour the putrid corpse. They likewise prey on cattle, and frequently commit great

* SYNONYMS.—*Canis Hyæna.* *Linn.*—Striped Hyæna. *Penn.*—L'Hyæna. *Buffon.*—*Shaw's Gen. Zool.* p. 78.—*Bew. Zool.* 271.

devastation among the flocks ; yet, when other provisions fail, they will eat the roots of plants, and the tender shoots of the palms. They sometimes assemble in troops, and follow the march of an army, in order to feast on the slaughtered bodies.

The cry of the Hyæna is very peculiar. It begins with somewhat like the moaning of the human voice, and ends like that of a person making a violent effort to vomit.—His courage is said to equal his rapacity. He will occasionally defend himself with great obstinacy against much larger animals. Kæmpfer relates, that he saw one which had put to flight two Lions ; and that he has often known it to attack the Ounce and the Panther. There is something in its aspect that indicates a peculiar gloominess and malignity of disposition ; and its manners correspond with its appearance.—Instances have occurred of this creature being tamed. Mr. Pennant says, that he saw a Hyæna as tame as a Dog ; and the Comte de Buffon, that there was one shewn at Paris that had been tamed very early, and was apparently divested of all its natural ferocity. In Barbary, Mr. Bruce assures us that he has seen the Moors, in the day-time, take this animal by the ears and haul him along, without his offering any other resistance than that of drawing back. And the hunters will take a torch in their hand, go into his cave, and, pretending to fascinate him by a senseless jargon of words, throw a blanket over him and drag him out.

Mr. Bruce locked up a Goat, a Kid, and a Lamb,

all day with a Barbary Hyæna, when it was fasting, and found them in the evening alive and unhurt; but on his repeating an experiment of this kind one night, it ate up a young Ass, a Goat, and a Fox, all before morning, so as to leave nothing but some fragments of the Ass's bones.—In Barbary, therefore, the Hyænas seem to loose their courage, and fly from man by day; but in Abyssinia, they often prowl about in the open day, and attack, with savage fury, every animal they meet with.—“ These creatures were (says Mr. Bruce) a general scourge to Abyssinia, in every situation, both in the city and in the field; and, I think, surpassed the Sheep in number. Gondar was full of them, from evening till the dawn of day; seeking the different pieces of slaughtered carcasses which this cruel and unclean people expose in the streets without burial, and who firmly believe that these animals are the evil genius Falasha, from the neighbouring mountains, transformed by magic, and come down to eat human flesh in the dark with safety. Many a time in the night, when the king had kept me late in the palace, and it was not my duty to lie there, in going across the square from the king's house, not many hundred yards distant. I have been apprehensive lest they should bite me in the leg. They grunted in great numbers about me, although I was surrounded with several armed men, who seldom passed a night without wounding or slaughtering some of them.—One night in Maitsha, being very intent on an observation, I heard something pass behind me towards the bed; but, upon looking round, could perceive nothing. Having

finished what I was then about, I went out of my tent, resolving directly to return ; which I immediately did, when I perceived two large blue eyes glaring at me in the dark. I called up my servant with a light ; and we found a Hyæna standing near the head of the bed, with two or three large bunches of candles in his mouth. To have fired at him, would have been at the risk of breaking my quadrant or other furniture ; and he seemed, by keeping the candles steadily in his mouth, to wish for no other prey at that time. As his mouth was full, and he had no claws to tear with, I was not afraid of him ; and, with a pike, stuck him as near the heart as I could. It was not till then that he shewed any sign of fierceness ; but, upon feeling his wound, he let drop the candles, and endeavoured to run up the shaft of the spear to arrive at me, so that I was obliged to draw my pistol from my girdle and shoot him ; and nearly at the same time, my servant cleft his skull with a battle-axe. In a word, the Hyæna was the plague of our lives, the terror of our night-walks, and the destruction of our Mules and Asses, which, above every thing else, are his favourite food."

At Dar-Fûr, a kingdom in the interior of Africa, the Hyænas come in herds of six, eight, and often more, into the villages at night, and carry off with them whatever they are able to master. They will kill Dogs and Asses, even within the inclosure of the houses ; and always assemble wherever a dead Camel or other animal is thrown, which (acting in concert) they drag to a prodigious distance : nor

are they greatly alarmed at the sight of men, or the report of fire-arms. Mr. Brown was told, that whenever any one of them was wounded, its companions would always instantly tear it to pieces and devour it *.

It is, as has been before remarked, a generally received opinion that the Hyæna cannot be tamed. The specimen now in the Ménagerie of the National Museum in Paris, which was bought in England and is supposed to be the variety observed by Bruce in Abyssinia, would seem to confirm this opinion. It continues to be excessively ferocious ; and is even more enraged at the appearance of its keeper than of any other person. This man, however, had formerly the care of a Hyæna which was so gentle, that he suffered it to run loose in his room ; and he knew its disposition so well, that after it had been devouring its food, he could venture even to clean its teeth.—The Hyæna now in the Ménagerie, eats five or six pounds weight of raw meat in the day. It is a singular fact, that, contrary to the nature of the same animals in a savage state, this sleeps in the night, and appears awake and active during the greater part of the day. It utters no cry except when any one irritates it ; and its voice on these occasions, is not much unlike that of many other wild carnivorous animals †.

A remarkable peculiarity in this animal is, that when he is first dislodged from cover, or obliged

* Brown.

† La Menagerie du Museum National d'Histoire Naturelle, liv. 2.

to run, he always appears lame for a considerable distance; and sometimes to such a degree, according to Mr. Bruce, as to induce the spectators to suppose that one of his hind-legs is broken; but after running some time, this affection goes off, and he escapes swiftly away.

The neck is so extremely stiff, that in looking behind, or in snatching obliquely at any object, he is obliged to move his whole body, somewhat in the manner of a Hog. When the Arabs take any of these animals, they are very careful to bury the head; lest the brain, according to their superstition, should be used in sorcery or enchantment*.

THE SPOTTED HYÆNA †.

The Spotted Hyæna has a considerable resemblance to the former species; but is larger, and marked with numerous roundish black spots. The face and upper part of the head are black; and along the neck extends an upright black mane. The ground colour of the body is reddish-brown ‡.

These animals are natives of many parts of Africa; but are peculiarly numerous at the Cape, where they are described as being cruel, mischievous, and formidable. They have been frequently known to enter the huts of the Hottentots in search of prey,

* Shaw's Trav. 246.

† SYNONYMS.—*Celis Crocuta*. Linn.—Tiger-wolf. *Sparrm. Kolben*.—Quimbenço, or Jackal. *Barbot.* 209—486.—Jackals, or Bos-louls. *Forst.*—Jackal, or Wild Dog. *Wagler*.—Spotted H. *Penn.*—*Shaw's Gen. Zool. pl.* 78.—*Bew. Quad.* 274.

‡ Kerr. i. 139.

from whence they sometimes carry off even the children. One of them coming into a Negro's house, on the coast of Guinea, laid hold of a girl; threw her, in spite of her resistance, on his back, holding fast by one of the legs; and was making off with her; when the men, whom her screams had roused from sleep, came to her relief. The beast dropped her, and made his escape, but she was considerably lacerated in different parts of her body by his teeth *.

Numbers of them attend almost every dark night about the shambles at the Cape, to carry away the filth and offal left there by the inhabitants, who suffer these their scavengers to come and return unmolested. The Dogs too, with which at other times they are in continual enmity, do not now molest them; and on these occasions, it has been remarked, they are seldom known to do any material mischief. Thunberg informs us, that they are so excessively bold and ravenous, as sometimes even to eat the saddle from under the traveller's head, and gnaw the shoes on his feet, while he is sleeping in the open air †.

They utter the most horrid yells in the night, while prowling about for prey; and their propensity to these cries is so implanted in them by nature, that one which was brought up tame at the Cape, was often heard in the night to emit this dreadful noise ‡.—During the day, they remain concealed in holes

* Barbot, v. 209.—Bosman, 295. † Thunberg, ii. 57. ‡ Church.

in the ground, or in clefts of the rocks ; and in the night time they frequently descend upon the sheep-folds, in which, if not well defended by Dogs, they commit terrible ravages, killing (like most of their genus) many more than they devour *. Some of the inhabitants of the Cape pretend that the Hyæna has the power of imitating the cries of other animals, and that by these means it often succeeds in decoying Lambs, Calves, &c. from the folds. It is also said, that a party of Hyænas half-flying and half-defending themselves, will decoy the whole of the Dogs from a farm to follow them to some distance ; while their companions have an opportunity of coming from their retreats, and carrying off sufficient booty before the Dogs can return to prevent them †.

Every kind of animal substance is a prize to them ; and they will even rob the graves of their dead, unless these are secured and well covered with stones to prevent them ‡. The gluttony and filthy habits of these animals, seem a kind interference of Providence, urging them to consume those dead and corrupting bodies which in very hot climates might otherwise seriously affect the health and comfort of the people.

The inhabitants of Guinea kill them by fixing guns on the outside of the villages, with a piece of carrion fastened to the trigger and placed near the muzzle, in such a manner, that the moment this bait is touched, the trigger is thereby pulled, and the piece discharged §.

* Kolben, ii. 108. † Church. ‡ Kolben, ii. 108.

§ Barbot, v. 209.—Bosman, ii. 35.

Dr. Sparrman relates a story of the Spotted Hyæna, for the truth of which he does not altogether vouch; yet it is so diverting, that I shall make no apology for introducing it. “One night, at a feast near the Cape, a trumpeter, who had got himself well filled with liquor, was carried out of doors in order to cool and sober him. The scent of him soon attracted a Tiger-wolf; which threw him on its back, and carried him away, thinking him a corpse and consequently a fair prize, towards Table Mountain. In the mean time, however, our drunken musician awaked; sufficiently sensible to know the danger of his situation, and to sound the alarm with his trumpet, which he carried fastened to his side. The beast, as may easily be imagined, was not less frightened in its turn*.” Another writer observes, that any but a trumpeter, in such a situation, would doubtless have furnished the animal with a supper†.

THE JACKAL ‡.

The body of the Jackal has a great resemblance to that of the Fox; the head, however, is shorter, the nose blunter, and the legs longer. The tail is thickest in the middle, tapers to a point, and is tipped with black. The hair, which is long and coarse, is of a dirty tawny colour, yellowish on the belly. The length of the body is about thirty inches, and of the tail eleven.—The Jackal is found in all the

* Voyage to the Cape of Good Hope.

† Church,

‡ SYNONYMS.—*Canis aureus*. *Linn.*—Schakal. *Penn.*—Chagal, in Persia.—*Adil. Belon.*—*Shaw's Gen. Zool.* pl. 79.—*Bew. Zool.* 2. 2.

hot and temperate parts of Asia ; and in most parts of Africa, from Barbary to the Cape.

In their manners these animals are much allied to the Dog. When taken young, they soon become domestic, attach themselves to mankind, wag their tails when pleased, and distinguish their masters from other persons. They love to be fondled, and patted with the hand ; and when called by name, will leap on a table or chair. They eat readily from the hand ; and drink as Dogs do, by lapping. They are fond of playing with Dogs ; unlike most others of this genus, which run away from them. Although carnivorous in a wild state, they eat bread eagerly. Mr. Pennant seems of opinion, that they are the stock from whence have sprung the various races of these domestic animals.

In their native forests they associate in packs of from fifty to two hundred ; where they hunt during the night, like Hounds, in full cry. They devour poultry and Lambs, ravage the streets of villages and gardens near towns, and are said even to destroy children which are left unprotected. They are bold and courageous ; sometimes entering the tent of a traveller while he is asleep, and stealing away any thing that is eatable. If animal prey is not to be met with, they will feed on roots and fruit. In this case the most infected carrion comes not amiss to them. They greedily disinter the dead, and devour the most putrid bodies ; on which account the graves are in many countries made of great depth. They also attend caravans, and follow armies, to feast on the remains of the dead.

In the night their howlings (for their voice is na-

turally a howl) are dreadful ; and when they are near, these are so horribly loud, that persons can with difficulty hear each other speak. Dillon says, their voice is like the cries of many children of different ages mixed together : when one commences, the whole pack immediately afterward join in the howl. In the day-time they are silent. All the beasts of the forest are roused by the cries of the Jackal ; and the Lion and other beasts of prey, by a kind of instinct, attend to it as a signal for the chase, and seize such timid animals as fly from the noise. From this circumstance it is that the Jackal has obtained the title of the Lion's Provider.—Jackals burrow in the earth ; and leave their habitations during the night only, to range for prey. The females breed once a-year, and produce from six to eight young at a birth*.

Such is, pretty nearly, the account of Mr. Pennant : that of the Comte de Buffon is different. The latter says, that these are stupid and voracious animals, and very difficult to be tamed ; and that with one kept nearly a-year, neither caresses nor food would soften its disposition, though taken young and reared with the utmost care. It would allow no one to touch it, and attempted to bite all persons indiscriminately. When suffered to be at liberty, nothing could prevent it from leaping on the tables, and carrying off every eatable it could lay hold of.—This writer also informs us, that whenever this animal meets with travellers, it stops to

* Penn. Quad. i. 244.

reconnoitre them without any symptoms of fear : that it is exceedingly voracious ; and, when nothing better offers, will even eat the leather of harnessing, or boots and shoes. Whenever any of these creatures begin to utter their cry, all the rest do the same ; so that when one has entered a house to steal, and hears his companions at a distance, he cannot refrain from adding his voice to the number, and is thus frequently detected *.

THE BARBARY JACKAL †.

The Barbary Jackal is about the size of the common Fox, and is of a brownish fawn-colour. From behind each ear runs a black line ; which soon divides into two, extending downwards along the neck. The tail is bushy, and surrounded by three dusky rings.

This species is found in Egypt ; never in flocks like the common Jackal, but always singly. It is a very adroit animal. He ventures to approach, even in the open day, the houses near which he has his subterraneous abode ; and carefully concealed beneath thick bushes, he frequently creeps without noise, surprises the poultry, carries off their eggs, and leaves no traces of his exploits but the devastations themselves.—One of his principal talents consists in the hunting of birds ; and in this he ex-

* Buff. Quad. vi. 257.

† SYNONYMS.—*Canis Barbarus*. *Shaw*.—Barbary Schakal. *Penn.*
—Thaleb. *Semini*.—Barbary Jackal. *Shaw*.

hibits such surprising craft and agility, that very few are able to escape him.

His cunning is strongly depicted in the following narration of M. Sonnini :—" One day, as I was meditating in a garden, I stopped near a hedge. A Thaleb, hearing no noise, was coming through the hedge towards me ; and when he had cleared himself, was just at my feet. On perceiving me, he was seized with such surprise, that he remained motionless for some seconds, without even attempting to escape, his eyes fixed steadily on me. Perplexity was painted in his countenance, by a degree of expression of which I could not have supposed him susceptible, and which denoted great delicacy of instinct. On my part, I was afraid to move, lest I should put an end to this situation, which afforded me much pleasure. At length, after he had taken a few steps, first towards one side and then the other, as if so confused as not to know which way to get off, and keeping his eyes still turned towards me, he retired ; not running, but stretching himself out, or rather creeping with a slow step, setting down his feet one after another with singular precaution. He seemed so much afraid of making a noise in his flight, that he held up his large tail, almost in an horizontal line, that it might neither drag on the ground nor brush against the plants. On the other side of the hedge I found the fragments of his meal ; that had consisted of a bird of prey, great part of which he had devoured."

He is one of the prettiest of quadrupeds ; and perhaps would be one of the most amiable, if his tricks

and talents for depredation did not bear greatly too much the marks of knavery and falsehood *.

THE FOX†.

The Fox is a native of almost every quarter of the globe ; and is of so wild and savage a nature, that it is impossible fully to tame him. He is esteemed the most sagacious and most crafty of all beasts of prey. The former quality he shews in his mode of providing himself an asylum, where he retires from pressing dangers, dwells, and brings up his young ; and his craftiness is discovered by his schemes to catch Lambs, Geese, Hens, and all kinds of small birds. The Fox, when this is possible, fixes his abode on the border of a wood, in the neighbourhood of some farm or village. He listens to the crowing of the Cocks, and the cries of the poultry. He scents them at a distance ; he chuses his time with judgment ; he conceals his road as well as his design ; he slips forward with caution, sometimes even trailing his body ; and seldom makes a fruitless expedition. If he can leap the wall, or creep in underneath, he ravages the courtyard, puts all to death, and retires softly with his prey ; which he either hides under herbage, or carries off to his kennel. He returns in a few minutes for more ; which he carries off or conceals in the same manner, but in a different place. In

* Sonnini, ii. 62.

† SYNONYMS.—*Canis Vulpes.* Linn.—Renard. Buffon.—Bew. Quod. 279, 280.

this way he proceeds till the progress of the sun, or some movements perceived in the house, warn him that it is time to suspend his operations, and to retire to his den. He plays the same part with the catchers of Thrushes, Woodcocks, &c. He visits the nets and birdlime very early in the morning : and carries off successively the birds which are entangled; concealing them in different places, especially by the sides of highways, in the furrows, and under the herbage or brush-wood, where they sometimes are left two or three days, but where he knows perfectly to find them when he is in need. He hunts the young Hares in the plains ; seizes old ones in their seats ; digs out the Rabbits in the warrens ; discovers the nests of Partridges and Quails, and seizes the mothers on the eggs ; and destroys a vast quantity of game. He is exceedingly voracious ; and when other food fails him, makes war against Rats, Field Mice, Serpents, Lizards, and Toads. Of these he destroys great numbers ; and this is the only service that he appears to do to mankind. When urged by hunger, he will also eat roots or insects ; and the Foxes near the coasts will devour Crabs, Shrimps, or Shell-fish. In France and Italy, they do incredible mischief by feeding on grapes, of which they are excessively fond *.

We are told by Buffon, that the Fox sometimes attacks Bee-hives, and the nests of Wasps, for the sake of what he can find to eat : and that he frequently meets with so rough a reception here, as to

* Penn. Brit. Zool. ii. 73.

force him to retire, that he may roll on the ground and crush those that are stinging him ; but having thus rid himself of his troublesome companions, he instantly returns to the charge, and obliges them at length to forsake their combs, and leave them to him as the reward of his victory. When pressed by necessity, he will devour carrion. The Comte de Buffon one evening suspended on a tree, at the height of nine feet, some meat, bread, and bones. The Foxes had been at severe exercise during the night ; for next morning the earth all around was beaten, by their jumping, as smooth as a barn-floor.

The Fox exhibits a great degree of cunning in digging young Rabbits out of their burrows. He does not enter the hole ; for in this case he would have to dig several feet along the ground, under the surface of the earth : but he follows their scent above, till he comes to the end, where they lie ; and then scratching up the earth, descends immediately upon and devours them *.

Pontoppidan informs us, that when the Fox observes an Otter go into the water to fish, he will frequently hide himself behind a stone ; and when the Otter comes to shore with his prey, will make such a spring upon him that the affrighted animal runs off and leaves his booty behind. “ A certain person (continues this writer) was surprised on seeing a Fox near a fisherman’s house, laying a parcel of Torsks’ † heads in a row. He waited the event ; the Fox hid

* Smith’s Directory for destroying Vermin, p. 2. † A species of Cod.

himself behind them, and made a booty of the first Crow that came for a bit of them *."

The Fox prepares for himself a convenient den, in which he lies concealed during the greater part of the day. 'This is so contrived, as to afford the best possible security to its inhabitant; being situated under hard ground, the roots of trees, &c. and is besides furnished with proper outlets, through which he may escape in case of necessity.—This care and dexterity in constructing for himself a habitation, is by M. de Buffon considered as alone sufficient to rank the Fox among the higher order of quadrupeds.

He is one of those animals, that in this country are made objects of diversion in the chace. When he finds himself pursued, he generally makes towards his hole; and penetrating to the bottom, lies till a Terrier is sent in to him. If his den is under a rock or the roots of trees, which is often the case, he is safe; for the Terrier is no match for him there, and he cannot be dug out by his enemies. When the retreat to his kennel is cut off, his stratagems and shifts to escape are as surprising as they are various. He always takes to the woody parts of the country, and prefers the paths that are most embarrassed with thorns and briars. He runs in a direct line before the hounds, and at no great distance from them; and if hard-pushed, seeks the low wet grounds, as though conscious that the scent does not lie so well there.

* Pontoppidan, ii. 22. There seem such extraordinary instances of sagacity and intelligence, that we scarcely know how to credit them.

When overtaken, he becomes obstinately desperate, and bravely defends himself against the teeth of his adversaries even to the last gasp*.

Dr. Goldsmith relates a remarkable instance of the parental affection of this animal, which he says occurred near Chelmsford. A She-Fox that had, as it should seem, but one cub, was unkennelled by a gentleman's Hounds, and hotly pursued. The poor animal, braving every danger rather than leave her cub behind to be worried by the Dogs, took it up in her mouth, and ran with it in this manner for some miles. At last, taking her way through a farmer's yard, she was assaulted by a Mastiff; and was at length obliged to drop her cub, which was taken up by the farmer. And we are happy to add, that the affectionate creature escaped the pursuit, and got off in safety †.—A female Fox was hunted near St. Ives, during three quarters of an hour, with a cub, about a fortnight old, all the time in her mouth, which she was at length compelled to leave to the ferocity of her pursuers ‡.—It is not, however, by Hounds alone that this sagacious animal is destroyed:

The plunder'd warrener full many a wile
Devises, to entrap his greedy foe
Fat with nocturnal spoils. At close of day,
With silence drags his trail : then from the ground
Pares thin the close-graz'd turf ; there with nice hand
Covers the latent death, with curious springs
Prepar'd to fly at once, whene'er the tread

* Church. † Goldsmith, iii. 330. ‡ Daniel, i. 169.

Of man or beast unwarily shall press
 The yielding surface. By th' indented steel
 With gripe tenacious held, the felon grins.
 And struggles, but in vain : yet oft 't is known
 When ev'ry art has fail'd, the captive Fox
 Has shar'd the wounded joint, and with a limb
 Compounded for his life.—But if perchance
 In the deep pitfall plung'd, there 's no escape :
 But unrepriev'd he dies ; and bleach'd in air,
 The jest of clowns, his reeking carcase hangs.

Of all animals the Fox has the most significant eye ; by which is expressed every passion of love, fear, hatred, &c. He is remarkably playful ; but like all savage creatures half reclaimed, will on the least offence bite even those with whom he is most familiar. He is never to be fully tamed. He languishes when deprived of liberty ; and if kept too long in a domestic state, he dies of melancholy. When abroad, he is often seen to amuse himself with his fine bushy tail, running sometimes for a considerable time in circles to catch it. In cold weather he wraps it about his nose*.

The Fox is very common in Japan. The natives believe him to be animated by the Devil ; and their historical and sacred writings are all full of strange accounts respecting him†. New England is said to have been early stocked with Foxes by a gentleman who imported some from Europe for the pleasure of the chase. The present breed in that country are supposed to have sprung from these.

* Penn. Brit. Zool. i. 73.

† Kaempfer, i. 126.

They are there believed to be very destructive to Lambs; and a reward is given of two shillings a-head, for their extirpation *.

The females produce only once a-year (except some accident befalls the first litter), and have from three to six at a time. If the dam perceives the place of her retreat to be discovered, she carries off her cubs, one by one, to a more secure habitation. The young are brought forth blind, like puppies; and are of a darkish-brown colour.—Foxes grow till they are eighteen months old, and live thirteen or fourteen years †.—During winter, these animals make an almost continual yelping; but in summer, when they shed their hair, they are for the most part silent.

THE ARCTIC FOX ‡.

The Arctic Fox is smaller than the Common Fox; and of a blueish-grey colour, which sometimes changes to perfect white. The hair is very thick, long, and soft. The nose is sharp; and the ears short, and almost hid in the fur. The tail is shorter, but more bushy, than that of the Common Fox.—These animals are met with only in the Arctic regions near the Polar Circle, and in the islands of the Frozen and Eastern Oceans; where they are found in incredible numbers.

* Daniel, i. 161.

† Ibid. i. 165.

‡ SYNONYMS.—*Canis Lagopus*. Linn.—*Isatis*. Buffon.—Bew. *Quadr.* 283.

Steller has given us an ample and entertaining description of their manners*.

“ During my unfortunate abode (says he) on Bering’s Island, I had but too many opportunities of studying the nature of these animals; which far exceed the common Fox in impudence, cunning, and roguery. The narrative of the innumerable tricks they played us, might vie with Albertus Julius’s history of the Apes on the island of Saxenburg.

“ They forced themselves into our habitations by night as well as by day, stealing all that they could carry off; even things that were of no use to them, as knives, sticks, and clothes. They were so extremely ingenious, as to roll down our casks of provisions, several *poods*† in weight; and then steal the meat out with such skill, that, at first, we could not bring ourselves to ascribe the theft to them. While employed in stripping an animal of its skin, it has often happened that we could not avoid stabbing two or three Foxes, from their rapacity in tearing the flesh out of our hands. If we buried it ever so carefully, and even added stones to the weight of earth that was upon it; they not only found it out, but with their shoulders pushed away the stones, by lying under them, and in this manner helping one another. If, in order to secure it,

* This description would seem to border somewhat on romance; but we know not how to contradict the statement of facts to which a respectable writer informs us he was an eye-witness.

† The *pood* is equal to 40 Russian pounds, each of which is somewhat less than the English pound.

we put any animal on the top of a high post in the air; they either dug up the earth at the bottom, and thus tumbled the whole down, or one of them climbed up, and with incredible artifice and dexterity threw down what was upon it.

“ They watched all our motions, and accompanied us in whatever we were about to do. If the sea threw up an animal of any kind, they devoured it before we could arrive to rescue it from them; and if they could not consume the whole of it at once, they trailed it in portions to the mountains; where they buried it under stones before our eyes, running to and fro so long as any thing remained to be conveyed away. While this was doing, others stood on guard, and watched us. If they saw any one coming at a distance, the whole troop would combine at once and begin digging altogether in the sand, till even a Beaver or Sea-bear in their possession would be so completely buried under the surface, that not a trace of it could be seen. In the night-time, when we slept in the field, they came and pulled off our night-caps, and stole our gloves from under our heads, with the beaver-coverings, and the skins that we lay upon. In consequence of this, we always slept with our clubs in our hands, that if they awoke us we might drive them away or knock them down.

“ When we made a halt to rest by the way, they gathered around us, and played a thousand tricks in our view; and when we sat still, they approached us so near that they gnawed the thongs of our shoes. If we lay down as if intending to sleep, they came

and smelt at our noses, to find whether we were dead or alive. On our first arrival, they bit off the noses, fingers, and toes of our dead, while we were preparing the grave; and thronged in such a manner about the infirm and sick, that it was with difficulty we could keep them off.

“ Every morning we saw these audacious animals patrolling about among the Sea-lions and Sea-bears* lying on the strand; smelling at such as were asleep, to discover whether some one of them might not be dead: if that happened to be the case, they proceeded to dissect him immediately, and soon afterwards all were at work in dragging the parts away. Because the Sea-lions sometimes in their sleep overlay their young, the Foxes every morning examined the whole herd of them, one by one, as if conscious of this circumstance; and immediately dragged away the dead cubs from their dams.

“ As they would not suffer us to be at rest either by night or day, we became so exasperated against them that we killed them, young and old, and harassed them by every means we could devise. When we awoke in the morning, there always lay two or three that had been knocked on the head the preceding night; and I can safely affirm, that, during my stay upon the island, I killed above two hundred of these animals with my own hands. On the third day after my arrival, I knocked down with a club, within the space of three hours, upwards of seventy of them, and made a covering to my hut with their skins.

* Leonine Seals, and Polar Bears.

They were so ravenous, that with one hand we could hold to them a piece of flesh, and with a stick or ax in the other could knock them down.

“ From all the circumstances that occurred during our stay, it was evident that these animals could never before have been acquainted with mankind; and that the dread of Man is not innate in brutes, but must be grounded on long experience.

“ Like the common Foxes, they were the most sleek and full of hair in the months of October and November. In January and February the growth of this was too thick. In April and May they began to shed their coat; in the two following months they had only wool upon them, and appeared as if they went in waistcoats.—In June they dropt their cubs, nine or ten at a brood, in holes and clefts of the rocks. They are so fond of their young, that, to scare us away from them, they barked and yelled like Dogs, by which they betrayed their covert; but no sooner did they perceive that their retreat was discovered, than (unless they were prevented) they dragged the young away in their mouths, and endeavoured to conceal them in some more secret place. On one of us killing the young, the dam would follow him with dreadful howlings, both day and night, for a hundred or more *versts**; and would not even then cease till she had done her enemy some material injury, or was herself killed by him.

“ In heavy falls of snow, these animals bury them-

* The Russian *verst* contains about $1166\frac{1}{2}$ English yards.

selves in that substance, where they lie as long as it continues of a sufficient depth. They swim across the rivers with great agility. Besides what the sea casts up, or what is destroyed by other beasts, they seize the Sea-fowl, by night, on the cliffs, where it has settled to sleep; but, on the contrary, they are themselves frequently victims to the birds of prey.—Though now found in such numbers on this island, they were probably conveyed thither from the continent, on the drift-ice; and being afterwards nourished by the great quantity of animal substances thrown ashore by the sea, they became thus enormously multiplied.”

We are informed by Mr. Crantz, that the Arctic Foxes exert an extraordinary degree of cunning in their mode of obtaining Fish for prey. They go into the water, and make a splash with their feet, in order to disturb the scaly tribes; and when these come up, immediately seize them. He says that in imitation of these animals, the Greenland women have adopted the same method with success*. —Charlevoix, apparently alluding to this species, says that they exert an almost incredible degree of cunning in entrapping the different kinds of Water-fowl. They advance a little way into the water; and afterwards retire, playing a thousand antic tricks on the banks. The Fowl approach; and on their coming near, the Fox ceases, that he may not alarm them, only moving about his tail very gently: the former are said to be so foolish as to come up

* Hist. of Greenland.

now and peck at it ; when he immediately springs round upon them, and seldom misses his aim *.

In Spitzbergen and Nova Zembla, Mr. Pennant tells us, these Foxes live also on the lesser quadrupeds : in Greenland, from necessity, on berries, shell-fish, or whatever the sea throws up : but in the north of Asia, and in Lapland, their principal food is the Lemming †, the multitudes of which are sometimes so vast as to cover the whole face of the country. The Foxes follow these in their emigrations from place to place ; and as the return of the Lemming is very uncertain, and frequently not till after long intervals of time, they are sometimes absent for three or four years in pursuit of this their favourite prey.—Mr. Pennant also tells us, that they are tame and inoffensive animals ; and so simple that there have been instances of their standing by while the trap was baiting, and immediately afterwards putting their heads into it ‡.

They are killed for the sake of their skins ; the fur of which is light and warm, but not durable. They have at times appeared in such vast numbers about Hudson's Bay, that four hundred have been taken in different ways between the months of December and March.—The Greenlanders sometimes eat the flesh, which they prefer to that of the Hare. They also make buttons of the skins ; and, splitting the tendons, use them instead of thread.

* Charlevoix, Travels, i. 207. † Mus Lemmus, of Linnæus.

‡ Penn. Arct. Zool. i. 43, 44.

THE CAT TRIBE.

This tribe of animals is ferocious, and tolerably swift of foot. They hunt for their prey chiefly in the night, and seize it by surprize; lying in wait till it comes within reach, and then springing suddenly forwards upon it at one leap. While their prey is in sight, they frequently move their tail from side to side, keeping at the same time their eyes steadily fixed on the object. They never adopt vegetable food, except from necessity. Most of them are very agile in climbing trees; and have the remarkable property of alighting on their feet whenever thrown or falling from a height, by which the danger usually attendant on such accidents is often prevented. The females, producing a considerable number of young at a birth, have eight teats; four of which are situated on the breast, and the other four on the belly *.

All the animals belonging to this tribe have six fore-teeth, the intermediate ones of which are equal. They have also three grinders on each side in both jaws. The tongue is furnished with rough sharp prickles, that point backwards. And the claws are sheathed and retractile †: a necessary provision to keep them from being dulled while waking; for, being their principal weapons, as well of offence as defence, they are both hooked and sharp.

* Linn. Gmel. i. 76. Kerr. i. 145.

† Except in the Lion; which has them retractile, but not into sheaths.—See the following account.

THE LION *.

The Lion is chiefly found in the interior of Africa, and in the hotter parts of Asia. His form is strikingly bold and majestic. His large head and shaggy pendent mane, his strength of limb, and formidable countenance, exhibit a picture of terrific grandeur which no words can describe.

His length is from six to eight feet ; and his tail, which is terminated by a tuft of blackish hair, is alone about four feet. The general colour is a pale tawny, inclining to white beneath. The claws are retractile ; not into sheaths, but into the intervals between the toes by means of a particular articulation of the last joint. The last bone but one, by bending itself outwards, gives place to the last, which is only articulated to it ; and to which the claw is fastened so as to bend itself upwards and sideways, more easily than downwards. So that the bone which is at the end of every toe being almost continually bent upwards, the point which rests upon the ground is not the extremity of the toe but the node of the articulation of the last two bones ; and thus in walking, the claws remain elevated and retracted between the toes, those of the right paws towards the right and those of the left towards the left side of the toes. This admirable structure is not found in the great-toe ; whose last joint bends only downwards, because this toe does not naturally rest upon

* SYNONYMS.—*Canis Leo. Linu.*—*Lion. Buffon.*—*Shaw's Gen. Zool. pl. 81, 82.*—*Bew. Quad. 169.*

the ground, being considerably shorter than the others *.

The Lioness is smaller than the Lion, and destitute of a mane. She brings forth in the spring, in the most sequestered places, and produces four or five young at a time. These, on their first appearance, are about the size of a small pug Dog; and they continue at the teat nearly twelve months.

The strength of the Lion is so prodigious, that a single stroke of his paw is sufficient to break the back of a horse, and one sweep with his tail will throw a strong man to the ground. Kolben says, that when he comes up to his prey, he always knocks it down dead, and seldom bites it till the mortal blow has been given: this blow he generally accompanies with a terrible roar †.

A Lion was once seen at the Cape to take a Heifer in his mouth; and though that animal's legs dragged on the ground, yet he seemed to carry her off with as much ease as a Cat does a Rat: he likewise leaped over a broad ditch with her, without the least difficulty. A Buffalo, perhaps, would be too cumbersome for him, notwithstanding his strength, to seize and carry off in the manner above-mentioned. Two yeomen, however, of the Cape of Good Hope, gave Dr. Sparrman the following account on this subject.—“ Being on a hunting party near *Boshiesmans-river* with several Hottentots, they perceived a Lion dragging a Buffalo from the plain to a wood upon a neighbouring hill. They, however, soon

* Memoirs of the Acad. of Scien. at Paris.

† Kolben, ii. 95.

forced him to quit his prey, in order to make a prize of it themselves ; and found that he had had the sagacity to take out the Buffalo's large and unwieldy entrails, in order to be able the easier to make off with the fleshy and more eatable part of the carcase. And as soon as he saw, from the skirts of the wood, that the Hottentots had begun to carry off the flesh to the waggon, he frequently peeped out upon them, probably with no little mortification.

“ The Lion's strength, however, is said not to be sufficient alone to get the better of so large and strong an animal as the Buffalo : but, in order to make it his prey, he is obliged to have recourse both to agility and stratagem ; and stealing on the Buffalo, he fastens, with both his paws, upon the nostrils and mouth of the beast, and continues squeezing them close together, till at length the victim is strangled, wearied out, and dies. It was said, that one of the colonists had had an opportunity of seeing a transaction of this kind ; and others had reason to conclude that something of this nature had passed, from seeing Buffaloes which had escaped from the clutches of Lions, and which bore marks of the claws of these animals about the mouth and nose. It was asserted, however, that the Lion risked his life in such attempts, especially if any other Buffalo was at hand to rescue that which was attacked ; and that a traveller had once an opportunity of seeing a female Buffalo, with her calf, defended by a river at her back, keep at bay, for a long time, five Lions which had partly sur-

rounded her, but which did not (at least as long as the traveller looked on) dare to attack her*.”

The Lion does not willingly attack any animal openly, unless provoked, or extremely hungry; in the latter case he is said to fear no danger, and to be repelled by no resistance. The method in which he takes his prey, is, almost always, to spring or throw himself on it, with one vast bound, from the place of his concealment: yet, if he chances to miss his leap, he will not (the Hottentots invariably assured Dr. Sparrman) follow his prey any farther; but, as though he were ashamed, turning round towards the place where he lay in ambush, slowly, and step by step, measures the exact length between the two points, in order to find how much too short, or how much beyond the mark, he had taken his leap.—“From all the most credible accounts that I could collect concerning Lions (continues this intelligent writer), as well as from what I saw myself, I think I may safely conclude, that this beast is frequently a great coward; or, at least, deficient in point of courage proportionate to his strength: on the other hand, however, he sometimes shews an unusual degree of intrepidity, of which I will just mention the following instance, as it was related to me.

“A Lion had broken into a walled inclosure for cattle, through the latticed gate, and had done considerable damage. The people belonging to the farm were well assured of his coming again by the same way. In consequence of this, they stretched

* Sparrman's Voyage to the Cape of Good Hope.

a rope directly across the entrance, to which several loaded guns were fastened in such a manner, that they must necessarily discharge themselves into the Lion's body as soon as ever he should push against the cord, as it was expected he would, with his breast. But the Lion, which came before it was dark, having probably some suspicions respecting the cord, struck it away with his foot ; and without betraying the least fear in consequence of the reports made by the loaded pieces, went on steadily and careless of every thing, and devoured the prey he had left untouched before."

Though the Lion generally springs upon his prey from some lurking-place, yet there have been instances where he has deviated from his usual method. Of these the following, related by Dr. Sparrman, is remarkable :—A Hottentot, perceiving that he was followed by a Lion, and concluding that the animal only waited the approach of night to make him his prey, began to consider of the best mode of providing for his safety, and at length he adopted the following. Observing a piece of broken ground with a precipitate descent on one side, he sat down by the edge of it ; and found, to his great joy, that the Lion also made a halt, and kept at a distance behind him. As soon as it grew dark, the man, sliding gently forward, let himself down a little below the edge of the steep ; and held up his cloak and hat on his stick, at the same time gently moving them backward and forward. The Lion, after a while, came creeping gently towards the object ; and mistaking the cloak for the man himself,

made a spring, and fell headlong down the precipice. By this means, the poor fellow was safely delivered from his horrible and rapacious enemy.

One of the Namaaqua Hottentots (whose country is about eighty leagues north of the Cape), endeavouring to drive his master's cattle into a pool of water, enclosed between two ridges of rock, espied a huge Lion couching in the midst of the pool. Terrified at the unexpected sight of such a beast, which seemed to have its eyes fixed upon him, he instantly took to his heels. In doing this, he had presence of mind enough to run through the herd; concluding that if the Lion should pursue, he would take up with the first beast that presented itself. In this, however, he was mistaken. The Lion broke through the herd, making directly after the Hottentot; who, on turning round, and perceiving that the monster had singled him out, breathless and half-dead with fear, scrambled up one of the tree-aloes, in the trunk of which had luckily been cut out a few steps the more readily to come at some bird's-nests that the branches contained. At the same moment the Lion made a spring at him; but, missing his aim, fell upon the ground. In surly silence he walked round the tree, casting at times a dreadful look towards the poor Hottentot, who had crept behind the nests. I should here remark, that these nests belong to a small bird of the genus *Loxia**; that lives in a state of society with the rest of its species, construct-

* *Loxia Socia* of Linnæus.

ing a whole republic of nests in one clump, and under one cover. One of these clumps of nests sometimes extends a space of ten feet in diameter, and contains a population of several hundred individuals. It was under the cover of one of these structures, that the Hottentot screened himself from the view of the Lion. Having remained silent and motionless for a length of time, he ventured to peep over the side of the nest, hoping that the Lion had departed; when, to his great terror and astonishment, his eyes met those of the animal, which, as the poor fellow afterwards expressed himself, “*flashed fire at him.*” In short, the Lion laid himself down at the foot of the tree, and did not move from the place for four-and-twenty hours. At the end of this time, becoming parched with thirst, the beast went to a spring at some distance in order to drink. The Hottentot now, with trepidation, ventured to descend; and ran off to his home, which was not more than a mile distant, as fast as his feet could carry him, where he arrived in safety. The perseverance of the Lion was such, that, it appeared afterwards, he returned to the tree, and, finding the man had descended, hunted him by the scent to within three hundred paces of the house.

It seems to be a well-established fact, that the Lion prefers the flesh of a Hottentot to any other food. One of these people has been frequently singled out from a party of Dutch. The latter, however, being disguised in clothing, and the former going generally naked, may perhaps account for this distinction. The Horse, next to the Hottentot, seems

to be his favourite prey ; but on the Sheep, which perhaps he is too indolent to uncase from its woolly covering, he seldom deigns to fix his paw *.

Where the Lion has become acquainted with human power, and experienced Man's superiority, his courage has been so lost that he has been scared away even with a shout. In a tame state (but it is scarcely fair to draw any general inference from this) we have an instance of a Lion being overcome by a Goat. Mr. Bruce, director and commander-general of the Senegal company on the African coast, had near him a large full-grown tame Lion, four years old, when a flock of Goats was brought that had been just purchased. The sight of this tremendous animal so frightened them, that all, except one, ran off. This, however, looking stedfastly at the Lion, stamped with his foot upon the ground in a menacing attitude, then retreated three steps, and instantly returning, struck the Lion's forehead so violently, with his horns, that the animal was stunned by the blow. The Goat repeated this several times before the Lion could recover himself ; and the huge poltroon was thrown into such confusion, that he was obliged to conceal himself behind his master †.

If we did not know somewhat of the natural disposition of this stately animal, we should feel a great degree of terror in seeing the keepers of wild beasts play with him, pull out his tongue, and even chas-

* Barrow's Travels in Africa, 298:
Voyages, ii. 342.

† Astley's Collection of

tise him (as they sometimes do) without a cause. He seems to bear all with the utmost composure ; and we very rarely have instances of his revenging these unprovoked sallies of impertinent curiosity. However, when his anger is at last excited, the consequences are terrible. Labat tells us of a gentleman who kept a Lion in his chamber, and employed a servant to attend it, who, as usual, mixed his blows with caresses. This ill-judged association continued for some time : till one morning the gentleman was awakened by a noise in his room, which he could not at first account for ; but drawing the curtains, he beheld a horrid spectacle—the Lion growling over the man's head, which he had separated from the body, and was tossing round the floor. The master immediately ran into the next room, called to the people without, and had the animal secured from doing farther mischief *. This single account, however, is not sufficient to weigh against the many instances we every day witness, of this creature's gentleness and submission. He is often bred up with domestic animals, and is seen to play innocently and familiarly among them ; and if it ever happens that his natural ferocity returns, it is seldom exerted against his benefactors.—The following pleasing anecdotes afford very sufficient proofs of the Lion's gratitude and affection.

In the reign of king James the First, Mr. Henry Archer, a watchmaker in Morocco, had two whelps given him, which had been stolen not long before

* Labat's *Afrique Occidentale*, ii. p. 11.

from a Lioness near Mount Atlas. They were a male and female; and till the death of the latter, were kept together in the emperor's garden. He, at that time, had the male constantly in his bed-room, till it grew as tall as a large Mastiff-dog; and the animal was perfectly tame and gentle in its manners. Being about to return to England, he reluctantly gave it to a Marseilles merchant; who presented it to the French king, from whom it came as a present to king James; and, for seven years afterwards, was kept in the Tower. A person of the name of Bull, who had been a servant to Mr. Archer, went by chance with some friends, to see the animals there. The beast recognized him in a moment; and, by his whining voice and motions, expressive of anxiety for him to come near, fully exhibited the symptoms of his joy at meeting with a former friend. Bull, equally rejoiced, ordered the keeper to open the grate; and he went in. The Lion fawned upon him like a dog, licking his feet, hands, and face; and skipped and tumbled about, to the astonishment of all the spectators. When the man left the place the animal bellowed aloud, and shook his cage in an ecstasy of sorrow and rage; and for four days afterwards refused to take any nourishment whatever*.

About the year 1650, when the plague raged at Naples, Sir George Davis, the English Consul there, retired to Florence. He happened one day from curiosity to visit the Grand-duke's dens. At the farther end of the place, in one of the dens, lay a

* Smith's Travels, in Churchill's Coll. ii. 395.

Lion, which the keepers, during three whole years; had not been able to tame, though all the art and gentleness imaginable had been used. Sir George no sooner appeared at the gates of the den, than the Lion ran to him with all the marks of joy and transport he was capable of expressing. He reared himself up and licked his hand, which this gentleman put in through the iron grate. The keeper, affrighted, pulled him away by the arm, intreating him not to hazard his life by venturing so near the fiercest creature of his kind that had ever entered those dens. Nothing, however, would satisfy Sir George, but in spite of all the keeper said to him he would go into the den. The instant he entered, the Lion threw his paws upon his shoulders, licked his face, and ran about his den, fawning, and as full of joy as a dog at the sight of his master. After several salutations had been exchanged, they parted very good friends.

The rumour of this interview between the Lion and the stranger, ran immediately through the city, and Sir George almost passed for a saint among the people. The Grand-duke, as soon as he had heard of it, sent for Sir George; who going with his highness to the den, gave him the following account of what had seemed so strange.

“ A captain of a ship from Barbary gave me this Lion, when quite a whelp. I brought him up tame; but when I thought him too large to be suffered to run about the house, I built a den for him in my court-yard: from that time he was never permitted to be loose, except when brought into

the house to be exhibited to my friends. When he was five years old, he did some mischief by pawing and playing with people in his frolicksome moods : having griped a man one day a little too hard, I ordered him to be shot, for fear of incurring the guilt of what might happen ; on this, a friend, who happened to be then at dinner with me, begged him as a present : how he came here I know not."

Here Sir George ended ; and the Duke of Tuscany assured him, that the Lion had been given to him by the very person on whom Sir George had bestowed him.

An instance of recollection and attachment occurred not many years since in a Lion belonging to the Duchess of Hamilton. At is thus related by Mr. Hope : " One day I had the honour of dining with the Duchess of Hamilton. After dinner, the company attended her grace to see a Lion fed that she had in the court. While we were admiring his fierceness, and teasing him with sticks to make him abandon his prey and fly at us, the porter came and informed the Duchess that a Serjeant with some recruits at the gate, begged to see the Lion. Her grace, with great condescension and good-nature, asked permission of the company to admit the travellers. They were accordingly admitted at the moment the Lion was growling over his prey. The Serjeant, advancing to the cage, called ' Nero, Nero, poor Nero, don't you know me ? ' The animal instantly turned his head to look at him ; then rose up, left his prey, and came,

wagging his tail, to the side of the cage. The man put his hand upon him, and patted him; telling us, at the same time, that it was three years since they had seen each other; and that the care of the Lion on his passage from Gibraltar, had been committed to him, and he was happy to see the poor beast shew so much gratitude for his attention. The Lion, indeed, seemed perfectly pleased; he went to and fro, rubbing himself against the place where his benefactor stood, and licked the Serjeant's hand as he held it out to him. The man wanted to go into the cage to him; but was withheld by the company, who were not altogether convinced that it would be safe for him to do so *."

Citoyen Felix, about five years ago, brought two Lions, a male and female, to the national ménagerie at Paris. About the beginning of the following June, Felix was taken ill, and could no longer attend the Lions; another was, therefore, forced to perform this duty. The male, sad and solitary, remained from that moment constantly seated at the end of his cage, and refused to receive any thing from the stranger, whose presence was hateful to him, and whom he often menaced by bellowing. The company even of the female seemed now to displease him; and he paid no attention to her. The uneasiness of the animal afforded a belief that he was really ill, but no one dared to approach him. At length Felix recovered; and, with intention to surprise the Lion, he crawled softly to the cage, and

* Thoughts in Prose and Verse, by John Hope, 1782.

shewed only his face between the bars : the Lion, in a moment, made a bound, leaped against the bars, patted him with its paws, licked his hands and face, and trembled with pleasure. The female also ran to him : but the Lion drove her back ; and seemed angry ; and, fearful that she should snatch any favours from Felix, a quarrel was about to take place, but Felix entered the cage to pacify them. He caressed them by turns ; and was afterwards frequently seen between them. He had so great a command over them, that whenever he wished them to separate and retire to their cages, he had only to give the order : when he had a desire that they should lie down, and shew strangers their paws or throats, on the least sign they would lie on their backs, hold up their paws one after another, open their throats, and, as a recompence, obtain the favour of licking his hand. These animals were of a strong breed ; and at the time above-mentioned, were five years and a half old *.

We are assured, from numberless authorities, that the anger of this animal is noble, his courage magnanimous, and his disposition grateful. He has been often seen to despise contemptible enemies, and pardon their insults when it was in his power to have punished them. He has been known to spare the lives of such creatures as were thrown to be devoured by him, to live peaceably with them, to afford them part of his subsistence, and sometimes even to want food himself rather than deprive them of that life

* Tilloch's Phil. Mag.

which his generosity had spared. I shall mention a single instance :—A Dog was put into the cage of a Lion in them *énagerie* at the Tower, some years ago, for his food. The stately animal, however, spared its life ; and they lived together for a considerable time in the same den, in the most perfect harmony, and appeared to have a great affection for each other. The Dog had sometimes the impudence to growl at the Lion, and even to dispute with him the food which was thrown to them ; so true is the old proverb, “ Familiarity breeds contempt :” but the noble animal was never known to chastise the impertinent conduct of his little companion ; but usually suffered it to eat quietly till it was satisfied, before he began his own repast *.

A Lioness, at present in the Museum of Natural History at Paris, permits a Dog to live in her den, and is excessively fond of it. She seems both pleased and gratified by its caresses : she is attentive to all its wants ; and is unhappy whenever it is removed, though for a few moments only, from her sight. The keepers assert that to this singular attachment alone, they are indebted for the tranquillity with which she has hitherto supported the loss of her liberty †.

Instances have even occurred of his merely chastising his pursuers, without destroying them. A Hottentot of the Cape, was thus bit in the face by a Lion, who then stalked away. A farmer lay for

* Church.

† La Menagerie du Museum National d'Histoire Naturelle.

some time under a Lion, and received several severe bruises from him; yet the animal spared his life. It is, however, a matter of some doubt, whether this merciful disposition towards Man is the effect of generosity, or whether it does not rather arise from caprice and want of appetite *.

In the Museum of Natural History at Paris one of the Lionesses, about nine years of age, has three times had young. At the first litter she produced nine, at the second three, and at the third two. The young ones of the second litter, at the age of a month, are represented in the frontispiece, with their mother; from a painting by Maréchal, natural-history painter in Paris. The parents, which are about equal in age, and probably of the same litter, were caught together, when somewhat more than a year old, in a trap, made in a wood, in the north of Africa. They now live together, are extremely gentle, and exhibit great affection towards each other.—None of the young ones had at first either a mane, or tuft at the end of their tail; and we are well assured that these do not begin to appear till the animals are three years, or three years and a half, old. Their coat was somewhat woolly, and of a confused colour, between grey and red. They had several little brown transverse strokes on the upper part of the back; which were crossed on each side by a straight line of the same colour, that extended from the back of the head to the tail. As they increased in size, these by degrees disappeared; and

* Church.

with a more regular proportion of limbs, the hair assumed nearly the colour of that of the old animals. It was in October, 1860, that these whelps were littered. When they were some months old, they became very mischievous, and one in particular exhibited unpleasant signs of ferocity. The keeper one day, against the animal's inclination, compelled him to go into the garden of the Museum; when he sprang at the man with so much violence, as to tear the sleeve of his coat. Two of these young Lions have fallen victims to the first effects of dentition, a period very dangerous to the young of all savage animals that are produced in a state of confinement.

The Lions in the Museum begin to roar at day-break, and the females follow their example. They continue this noise for six or seven minutes; and recommence it after feeding, for about the same length of time. At other times they are seldom heard; except to announce some change of weather, or when their keeper has been long absent.—In a state of nature, the Lion seldom leaves his den except during the night; but in the Museum the animals, being shaded from the too glaring light of the sun, are, on the contrary, always most active in the day.

In the den adjoining to that in which the above-mentioned Lioness is placed, there is another female, which was caught in the interior of Africa, at a much greater distance from the habitations of men than the places from whence any others in the Museum were brought. According to the account of Felix Cassel, the principal keeper, who travelled

into Africa to collect animals, she came from the borders of the Great Desert. She is ferocious in the extreme, and all the care and attentions of the keepers have not hitherto in the least degree softened her natural disposition. This circumstance seems to confirm the opinion of Buffon and some other naturalists: who assert, that the Lions possess greater strength and ferocity as they are removed from the haunts of Man, and that the most formidable character is to be expected in those that frequent only the burning and sandy deserts of the interior of Asia and Africa.

The Lion which is figured in "*La Ménagerie du Museum National*," is an uncommonly beautiful animal; and was caught seven years ago, between Constantine and Bonne, in the dominions of the Dey of Algiers, after a chase of three days. It was then only a-year old, but all its teeth were found perfect. The mane did not appear till two years and a half afterwards. It was presented by the Dey to the French Republic.

Felix Cassel, the keeper of the Lions, asserts that the tradition of these animals being terrified at the crowing of a Cock, is very far from being founded in fact. He has known a Lion catch two or three Cocks, and in a few minutes devour them with great eagerness.

Tavernier mentions, that, in some parts of the East, the inhabitants have a mode of taming Lions, which does not seem to be practised in any other part of the world. Four or five of these animals being brought together, are tied by their hind legs, to stakes, at the distance of twelve yards from

each other. Another strong rope is put round the neck of each ; and this is held by men, who stand behind the stakes. In the front, and in a line parallel with the animals but just beyond their reach when they are at the extent of the rope that ties their legs, another rope is placed ; against which several people stand, who incessantly tease them, by throwing stones and pieces of wood at them. The Lions, provoked at this outrage, spring with fury towards the people ; when the man, who holds the ropes that are round their necks, pulls them back. Thus they are by degrees rendered familiar. Tavernier was himself a witness of this method *.

Mr. Brown tells us, that, while he was resident at Dar Fûr, in Africa, he purchased two Lions, one of which was only four months old. By degrees, he rendered this latter animal so tame that it acquired most of the habits of a Dog. It satiated itself twice a-week with the offal of the butchers, and then commonly slept for several hours successively. When food was given them, they were not only furious to each other, but to any one who approached them ; excepting, however, these intervals, though both were males, Mr. Brown never saw them disagree, nor exhibit any signs of ferocity towards men. Even lambs passed them unmolested. The Sultan had also two tame Lions, which, with their attendant, always came into the market to be fed †.

Within the dominions of the Great Mogul, it is esteemed a royal privilege to hunt the Lion, and no

* Travels in India.

† Travels in Africa.

one can do so without especial permission from the king. When Sir Thomas Roe was at this court, as ambassador from James the First, a Lion and a Wolf broke into the court-yard of his house ; and it was not till he had sent to the palace, and obtained leave, that he dared to attack them *.

The roaring of the Lion when in quest of prey, resembles the sound of distant thunder ; and, being re-echoed by the rocks and mountains, appals the whole race of animals, and puts them to a sudden flight ; but he frequently varies his voice into a hideous scream or yell.

He is commonly said to devour as much at once as will serve him for two or three days ; and, when satiated with food, to remain in a state of retirement in his den, which he seldom leaves except for the purpose of prowling about for prey. His teeth are so strong, that he breaks the bones of animals with perfect ease, and often swallows them along with the flesh. His tongue is furnished with reversed prickles, so large and strong as to be capable of lacerating the skin. When he is enraged, or in want of food, he erects and shakes his mane, and beats his tail with considerable violence against his back and sides †. In this state, the inhabitants of the Cape say, it is certain death to any person who happens unfortunately to approach him ; but when the mane and tail are at rest, and the animal is in a placid humour, travellers may in general pass near him with safety ‡.—The

* Voyage to India, in Churchill's Coll. i. 795. † Grose, i. 275.

‡ Kolben.

temper of the Lioness is said to be not so easily discovered : when, however, she is attacked with her young, she seems insensible to her own wounds ; and with her head to the ground, and her eyes fixed upon those who would deprive her of her progeny, she seldom fails either to save them, or perish in their defence *.

The royal dam looks round with proud disdain,
Lashes her sides, and curls her flowing mane ;
No danger fears, but, willing to engage,
With chafing jaws she churns the frothy rage.
Redoubled fires flash from her rolling eyes,
Clods scatter'd fly, and dusty columns rise.
Roaring she frights the herd, and shakes the plain,
Mocks the slung stone, and snaps the spear in twain ;
Still guards her young, the hunter's motion thwarts,
And wrenches from her sides the reeking darts.
But when death hovers o'er her swimming eyes,
And clotted on the ground life's wasted treasure lies ;
When doubtful staggers own the killing wound ;
Regardless of herself she looks around,
O'er her dear cub her sinking head reclines,
In death defends, nor at her fate repines :
But dreads to see the wretch a captive made,
To hear him roar, and call in vain for aid.

Kolben, who seems unaccountably to have been more partial to the flesh of rapacious animals than that of most others, says, that the Lion is frequently eaten at the Cape, and that the flavour is excellent, being greatly like that of venison †.

* Grose, i. 275.

† Kolben, ii. 96.

THE TIGER*.

The Tiger is a native of Asia, and is met with as far north as China and Chinese Tartary; but he is principally found in India, and the Indian islands.—His general size is somewhat under that of a Lion. At the same time that this is the most ferocious, he is certainly the most beautiful of all quadrupeds; his colour being a fine orange-yellow, white on the face, throat, and belly, and marked throughout by many long transverse stripes.

His disposition is fierce and sanguinary in the extreme, and there is no animal that he will not venture to attack. Such furious combats have taken place between the Lion and Tiger, that both animals have frequently been known to perish, rather than give up the contest.

He commits horrid ravages among the flocks and herds, in the countries where he resides; and neither the sight nor the opposition of Man (in whose flesh he is said to delight) has any power to make him desist. When undisturbed, he plunges his head into the body of the animal, and drinks large draughts of blood, the sources of which are generally exhausted before his thirst is appeased.

His muscular strength is extremely great. We are informed, that a peasant in the East Indies had a Buffalo fallen into a quagmire; and while he went to call for assistance, an immense Tiger came, that

* SYNONYMS.—*Felis Tigris*. *Linn.*—Tigre. *Buffon*.—Royal Tiger. *D'Obsonville*.—*Shaw's Gen. Zool.* pl. 83.—*Bew. Quad.* 186.

immediately drew out the animal, on which the united efforts of several men had been of no effect. When the people returned, the first object they beheld was the Tiger with the Buffalo thrown over his shoulder : he was carrying it away with the feet upward, towards his den. As soon, however, as he saw the men, he let fall his prey, and instantly fled to the woods ; but he had previously killed the Buffalo, and sucked its blood *. It may be here observed, that some of the East Indian Buffaloes weigh above a thousand pounds, which is twice as heavy as the ordinary run of our black-cattle : whence we may form a conception of the enormous strength of this rapacious animal, that could thus run off with a weight double that of itself.

M. D'Obsonville was present at a terrible combat between a Tiger and an Elephant, in the camp of Hyder Ali. The Tiger, not yet of full strength (for he did not seem more than four feet high), was brought into the area, and fastened with a chain to a stake, round which he could turn freely. On one side, a strong and well-taught elephant was introduced by his keeper. The amphitheatre was enclosed by a triple rank of lance-men. The action, when it commenced, was furious ; the Elephant, however, after receiving two deep wounds, proved victorious. But from an encounter like this, where the animal seemed a feeble one of its species, and was at the same time restrained by chains, we cannot form an accurate judgment of its powers in a

* Hamilton, i. 204.

state of liberty. M. D'Obsonville says, that although four or five Elephants would have nothing to fear from a greater number of Tigers, yet, from what he could remark from this exhibition, he was of opinion, that when the Tiger is in full possession of his faculties, he will be more than equal to the Elephant in single combat *.

We are told, but probably without foundation, that the Tiger will encounter the Crocodile. It is said that, when he descends to the water to drink, the Crocodile raises its head above the surface, in order to seize him, as it does other animals that come there for that purpose. When this is the case, the Tiger strikes his claws into the eyes of the Crocodile, the only vulnerable part within his reach; and the latter, immediately plunging under the water, drags in the Tiger also, and by this means they are frequently both drowned.

The Tiger, if taken young, may for a short time at least, till his ferocity comes with his age, be in some measure domesticated, and rendered mild and playful to his keepers.—A beautiful young Tiger, brought not long ago from China, in the Pitt East-Indiaman, at the age of ten months, was so far domesticated, as to admit of every kind of familiarity from the people on board. It seemed to be quite harmless, and was as playful as a kitten. It frequently slept with the sailors in their hammocks; and would suffer two or three of them to repose their heads on its back, as upon a pillow, while it

* D'Obsonville, 90.

lay stretched out upon the deck. In return for this, it would, however, now and then steal their meat. Having one day stolen a piece of beef from the carpenter, he followed the animal, took the meat out of its mouth, and beat it severely for the theft ; which punishment it suffered with all the patience of a Dog. It would frequently run out on the boltsprit ; climb about the ship like a Cat ; and perform a number of other tricks, with an agility that was truly astonishing. There was a Dog on board, with which it would often play in the most diverting manner. This animal was taken on board the ship when it was only a month or six weeks old, and arrived in this country before it had quite completed a year. How much longer its good-humour might have continued, it is impossible to say : but it is very much to be doubted, whether the same innocent playfulness would have formed a part of its character when arrived at its full state of maturity *. D'Obsonville seems, however, of opinion, that the Tiger may be in some measure educated ; but that the Eastern nations deem it useless to make subservient to their amusement an animal, whose strength is the more dangerous from its natural gloomy ferocity, which, roused by certain circumstances, might be found to have been by no means eradicated †.

The method of the Tiger's seizing his prey is, by concealing himself from view, and springing, with a horrible roar, on his object, which he carries off into the recesses of the forest ; having first, if undis-

* Bew. Quad. 187.

† D'Obsonville, 82.

turbed, sucked out the blood. His cry, in the act of springing on the victim, is said to be hideous beyond conception; and we are told that, like the Lion, if he misses his object, he makes off without repeating the attempt. He seems to prefer mankind to any other prey, when he can procure them by surprise; but he seldom makes an open attack on any animal capable of resistance.

In the beginning of the present century, a company, seated under the shade of some trees near the banks of a river in Bengal, were alarmed by the unexpected sight of a Tiger, preparing for its fatal spring: when a lady, with almost unexampled presence of mind, unfurled a large umbrella in the animal's face; which, being confounded by so extraordinary and sudden an appearance, instantly retired, and thus gave them an opportunity of escaping from its terrible attack*.

Another party had not the same good-fortune; but, in the height of their entertainment, in an instant one of their companions was seized and carried off by a Tiger†.—But the fatal accident which a few years ago occurred in the East Indies, must be still fresh in the memory of all who have read the dreadful description given by an eye-witness of the scene. “We went (says the Narrator) on shore on Sangar Island, to shoot deer; of which we saw innumerable tracks, as well as of Tigers: we continued our diversion till near three o'clock; when, sitting down by the side of a jungle to refresh ourselves, a roar

* Penn. Quad.

† Ibid. i. 258.

like thunder was heard, and an immense Tiger seized our unfortunate friend *, and rushed again into the jungle, dragging him through the thickest bushes and trees, every thing giving way to its monstrous strength ; a Tigress accompanied his progress. The united agonies of horror, regret, and fear, rushed at once upon us. I fired on the Tiger ; he seemed agitated. My companion fired also ; and in a few moments after this, our unfortunate friend came up to us, bathed in blood. Every medical assistance was vain ; and he expired in the space of twenty-four hours, having received such deep wounds from the teeth and claws of the animal, as rendered his recovery hopeless. A large fire, consisting of ten or twelve whole trees, was blazing near us at the time this accident took place, and ten or more of the natives were with us. The human mind can scarcely form any idea of this scene of horror. We had but just pushed our boat from this accursed shore, when the Tigress made her appearance, almost raging mad, and remained on the sand all the while we continued in sight."

On the borders of Tartary, Tigers are very frequent ; and in so populous an empire as China, it would seem impossible for them to have remained till the present day unextirpated. In the Northern roads, hundreds of travellers are seen with lanterns carried before them, to secure them from these ra-

* Mr. Monro, the son of Sir Hector Monro, bart. This fatal event took place in the year 1792.

† Pen. Outl. of Gl. iii. 90.

venous animals *.—In some parts of India, they are particularly fatal to wood-cutters and labourers about the forests ; and they have been known to swim to boats at anchor at little distance from the shore, and snatch the men from aboard †.—In Java, they are much dreaded, from their very frequently carrying off the travelling inhabitants. When any person of consequence goes out into the country, he has with him men who blow incessantly a kind of small French-horns, the shrill sound of which frightens these creatures entirely away ‡.—The hunting of Tigers is a favourite amusement with some of the Eastern princes ; who go in search of them, attended by considerable bodies of men well mounted and armed with lances. As soon as the animals are roused, they are instantly attacked on all sides, with pikes, arrows, and sabres, and are presently destroyed. This diversion is, however, always attended with danger ; for if the Tiger feels himself wounded, he seldom retreats without sacrificing one of the party to his vengeance §. There are men who, covered with a coat of mail ; or even armed only with a shield, a poinard, and a short scymitar ; will dare to attack these blood-thirsty animals singly, and fight with them life for life ; for in combats of this nature, there is no other alternative, than to vanquish or to fall.

The inhabitants of these countries predict their success or losses by omens taken from this animal.

* Penn. Outl. of Gl. iii. 90. † Ibid. ii. 152. ‡ Thunberg, iv. 162.
§ Church.

If they are marching against an enemy, and a Tiger is seen flying nearly in the same direction, victory is always supposed to be certain. But as it must of course happen that the reverse frequently takes place, they are never in want of a subterfuge to justify a similar augury.

The Tigress, like the Lioness, produces four or five young at a litter. She is at all times furious; but her rage rises to the utmost extremity, when robbed of her young. She then braves every danger; and pursues her plunderers, who are often obliged to release one of their captives in order to retard her motion. She stops, takes it up, and carries it to the nearest covert; but instantly returns, and renews her pursuit, even to the gates of buildings, or the edge of the sea: and when her hope of recovering her offspring is lost, she expresses her agony by howlings so hideous as to excite terror wherever they are heard.

The roar of the Tiger is said to be exceedingly dreadful. It begins by intonations and inflections, deep, melancholy and slow: presently it becomes more acute; when suddenly exerting himself, the animal utters a violent cry, interrupted by long tremulous sounds, which, together, make a distracting impression upon the mind. It is chiefly in the night that this is heard; when silence and darkness add to the horror, and his roarings are repeated by the echoes of the mountains*.

The skin is held in high esteem in all the Eastern

* D'Obsonville, 88.

countries; and particularly in China, where the Mandarins cover their seats of justice with it. It is also applied to many other ornamental and useful purposes. The Indian physicians attribute medical virtues to various parts of the Tiger's body *.

THE LEOPARD †.

The Leopard is about four feet in length; of a yellowish colour, and marked with numerous annular black spots. The tail is about two feet and a half long.—It is an inhabitant of Senegal, Guinea, and most parts of Africa; delighting in the thickest forests, and frequenting the borders of rivers to wait for such creatures as resort thither to quench their thirst.

In general appearance, these animals are fierce. The eye is restless, the countenance cruel, and all the motions are short and precipitate. They attack and devour every thing they meet, sparing neither man nor beast; and when their wild prey is insufficient to satiate their cruel appetite, they descend in great numbers from their lurking-places, and commit dreadful slaughter among the numerous herds of cattle which are to be found in the plains. They tear their prey, both with their teeth and claws; and though continually devouring, their appearance is always thin and meagre ‡.

* D'Obsonville, 82.

† SYNONYMS.—*Felis Leopardus*. Linn.—Leopard. Buffon.—*Shaw's Gen. Zool.* pl. 88.—*Bew. Quad.* 193.

‡ Penn. Quad.—Church.

In the year 1708, if we may believe the account of Kolben, two Leopards, a male and female, with three young ones, entered a sheep-fold at the Cape. The old ones killed nearly a hundred sheep, and regaled themselves with the blood. When they were satiated, they tore a carcass into three pieces, and gave one of these to each of their young ones. They then took each a whole sheep; and thus laden began to move off. Having been observed, however, they were way-laid on their return, and the female and three young ones killed; but the male effected his escape *. The same writer also informs us, that the Leopard will not eat carrion, nor deign to touch what has been killed by any other beast.

The Negroes take these beasts in pitfalls; covered slightly over with hurdles, on which a piece of flesh is placed as a bait.

The late Sir Ashton Lever had a Leopard, which he kept in a cage at Leicester-house. It had become so tame, as always to seem highly pleased and gratified by caresses and attention, purring and rubbing its sides against the cage like a cat. Sir Ashton gave it to the royal menagerie in the Tower; where a person, before acquainted with it, saw it after an interval of more than a year, notwithstanding which it appeared instantly to recognize him, and began as usual to renew its caresses †.

The flesh is white and well-tasted; eating, says Kolben, much better than the finest veal. It is both nourishing and delicious; that of the young

* Kolben, ii. 98.

† Church,

is as tender as chicken*.—The skins are brought into Europe, where they are held in high estimation; some of the most beautiful selling for more than ten guineas each.

THE HUNTING LEOPARD †.

The Hunting Leopard is about the height of a large Greyhound; of a light tawny brown colour, marked with numerous circular black spots. The legs and tail are long. Its form is more lengthened than that of the Tiger, and the chest is narrower. It is a native of India.

This animal is frequently tamed, and used in the chase of Antelopes. It is carried in a kind of small waggon, chained and hooded, lest, on approaching the herd, it should be too precipitate, or not make choice of a proper animal. When first unchained, it does not immediately spring towards its prey; but winds with the utmost caution along the ground, stopping at intervals, and carefully concealing itself till a favourable opportunity offers: it then darts on the herd with astonishing swiftness, and overtakes them by the rapidity of its bounds. If, however, in its first attempt, which consists of five or six amazing leaps, it does not succeed, it loses breath; and, finding itself unequal in speed, stands still for a while to recover: then giving up the point for that time, quietly returns to its keeper ‡.

* Kolben, ii. 97.

† SYNONYMS.—*Felis Jubata?* Linn.—*Le Guepard.* Buffon.—*Shaw's Gen. Zool. pl. 86.*

‡ Penn. Quad. i. 264.

THE CAPE CAT *.

This is an elegant animal ; and is found in a wild state, in the mountains at the Cape of Good Hope. It is considerably larger than the Domestic Cat. The colour is a bright tawny ; marked on the back with oblong black streaks, and in the other parts with blotches of the same. A skin measured by Mr. Pennant, was found to be three feet from the nose to the tail.

In their native mountains, these animals are very destructive to Rabbits, young Antelopes, Lambs, and even to all the different species of Birds. In disposition, however, they are not so fierce as the generality of their tribe ; and when taken, they are easily rendered tame. Labat says, (as it seems though, without sufficient foundation,) that their appearance bespeaks cruelty, and their eyes a great degree of ferocity.

When Dr. Forster and his son touched at the Cape, in the year 1795, one of these animals was offered to him for sale. But from its having a broken leg, he refused it, under the apprehension that it would not be able to bear a passage to Europe. It was brought in a basket to his apartment, where he kept it above four-and-twenty hours ; which gave him an opportunity, not only of describing it, but, in some measure, of observing its manners and economy. These

* SYNONYMS.—*Felis Capensis*. Linn.—Tiger Cat of the Cape of Good Hope. Forster.—Tiger Bush Cat. Kolben.—Nsussi. Labat.—Cape Cat. Pennant.—*Shaw's Gen. Zool. pl.* 88.

seemed perfectly analogous to those of our domestic Cats. It ate raw fresh meat, and appeared to attach itself very much to its feeders and benefactors. In its disposition it was gentle, and had been rendered perfectly tame. After Dr. Forster had fed it a few times, it followed him like a tame favourite Cat. It was fond of being stroked and caressed, rubbed its head and back against the person's clothes who fed it, and seemed very desirous of being noticed. It purred, as our domestic Cats do when they are pleased. At this time it was about nine months old, and had been taken when quite young in the woods*.

THE WILD CAT†.

The Wild Cat, from which all the varieties of the Domestic Cat have proceeded, is a native both of Europe and Asia, and is even yet to be found in some of the woody and more unfrequented parts of our island. It has a larger head and stronger limbs than the Domestic Cat; and its colour is a pale yellowish-grey, with dusky stripes, those on the back running lengthwise, and those on the sides transversely and in a curved direction. The tail is shorter than in the domestic kinds, and is barred with dusky rings. It breeds in hollow trees, and produces four young at a litter; and, in the places where it inhabits, it makes destructive havock among the neighbouring Lambs, kids, and poultry.

* Phil. Trans. vol. 71. p. 3. paper by Dr. Forster.

† SYNONYMS.—*Felis Catus*. Linn.—Common Cat. Penn.—Chat Sauvage. Buffon.—Bew. Quad. 205, 208.

The Wild Cats are sometimes taken in traps, and sometimes by shooting : in the latter mode it is dangerous to merely wound them, for they have frequently been known to attack the person who injured them ; and their strength is so great as to render them no despicable enemy.—At Barnboro', a village between Doncaster and Barnsley, in Yorkshire, there is a tradition extant of a serious conflict that once took place between a Man and a Wild Cat. The inhabitants say, that the fight commenced in an adjacent wood, and that it was continued from thence into the porch of the church. I do not recollect in what manner it is reported to have begun ; they tell us, however, that it ended fatally to both combatants, for each died of the wounds received. A rude painting in the church commemorates the event ; and (as in many similar traditions) the accidentally natural red tinge of some of the stones has been construed into bloody stains which all the properties of soap and water have not been able to efface.

In Jamaica, from the quantity of food at all seasons to be procured in the woods and mountains, the Domestic Cat is very apt to become wild : to remedy this inconvenience, the country people frequently split or cut off its ears, the more to expose these tender organs to the rain or dews ; and this is said to be generally effectual *.—In England also the Domestic Cats will sometimes become wild ; and when this happens to be the case, they prove themselves mortal foes to Pheasants at roost, and more

* Browne, 485.

injure the diversion of the sportsman than most species of naturally wild vermin. In Monshalm Thrift, a large cover belonging to Sir H. St. John Mildmay, sixteen of these animals were killed by a pack of Fox-hounds in four days drawing the cover for Foxes. They are usually caught in traps, having the bait sprinkled with Valerian, and Valerian scattered in and about the traps *.

The colours of the DOMESTIC CAT † are very various. Its manners and dispositions seem to be entirely changed by education ; and although it does not exhibit the affectionate attachment of the Dog, yet it is not destitute of either gentleness or gratitude.—A very singular example of this is recorded in Mr. Pennant's Account of London. Henry Wriothesly, earl of Southampton, the friend and companion of the earl of Essex in his fatal insurrection, having been some time confined in the Tower, was one day surprised by a visit from his favourite Cat ; which, says tradition, reached its master by descending the chimney of his apartment ‡. In proof of the sagacity of these animals, I shall adduce the following instances.—A friend of mine possessed a Cat and a Dog, which, not being able to live together in peace, had several contentious struggles for the mastery ; and in the end, the

* Daniel, i. 363.

† Chat Domestic. *Buffon*.

‡ Although this anecdote is brought forward on the authority of Mr. Pennant, I must confess that it seems too absurd to be allowed any degree of credit.

Dog so completely prevailed, that the Cat was driven away, and forced to seek for shelter elsewhere. Several months elapsed, during which the Dog alone possessed the house. At length, however, he was poisoned by a female servant, whose nocturnal visitors he had too often betrayed; and was soon afterwards carried out lifeless into the court before the door. The Cat, from a neighbouring roof, was observed to watch the motions of several persons who went up to look at him; and when all were retired, he descended, and crept, with some degree of caution, into the place. He soon ventured to approach; and, after having frequently patted the Dog with his paw, appeared perfectly sensible that his late quarrelsome companion could no more insult him; and from that time he quietly returned to his former residence and habits.

A Cat frequented a closet, the door to which was fastened by a common iron latch. A window was situated near the door. When the door was shut, the Cat gave herself no uneasiness. As soon as she was tired of her confinement, she mounted on the sole of the window, and with her paws dexterously lifted the latch and came out. This practice she continued for years *.

A physician of Lyons, in July, 1800, was requested to inquire into a murder that had been committed on the body of a woman of that city. In consequence of this solicitation, he went to the residence of the deceased, where he found her extended life-

* Smellie.

less on the floor and weltering in her blood. A large white Cat was mounted on the cornice of a cupboard, at the farther end of the apartment, where he seemed to have taken refuge. He sat motionless ; with his eyes fixed on the corpse, and his attitude and looks expressing horror and affright. The following morning, he was found in the same station and attitude ; and when the room was filled with officers of justice, neither the clattering of the soldiers' arms, nor the loud conversation of the company, could in the least degree divert his attention. As soon, however, as the suspected persons were brought in, his eyes glared with increased fury ; his hair bristled ; he darted into the middle of the apartment, where he stopped for a moment to gaze at them ; and then precipitately retreated under the bed. The countenances of the assassins were disconcerted ; and they now, for the first time during the whole course of the horrid business, felt their atrocious audacity forsake them *.

Few animals exhibit more maternal tenderness, or shew a greater attachment to their young, than the Cat. The assiduity with which she attends them, and the pleasure which she seems to take in all their playful tricks, afford a very grateful entertainment to every observer of nature. She has also been known not only to nurse with tenderness the young of different individuals of her own species, but even those of other kinds of animals.

“ My friend (says Mr. White, in his Natural

* Monthly Magazine for January, 1801.

History of Selborne) had a little helpless *Leveret* brought to him, which the servants fed with milk from a spoon; and about the same time his Cat kitted, and the young were dispatched and buried. The Hare was soon lost; and was supposed to have been killed by some Dog or Cat. However, in about a fortnight, as the master was sitting in his garden, in the dusk of the evening, he observed his Cat, with tail erect, trotting towards him, and calling with little short inward notes of complacency, such as these animals use towards their kittens; and something gamboling after her, which proved to be the *Leveret*, that the Cat had nourished with her milk, and continued to support with great affection. Thus was a granivorous animal nurtured by a carnivorous and predacious one!—This strange affection was probably occasioned by those tender maternal feelings, which the loss of her kittens had awakened; and by the complacency and ease she derived from the procuring of her teats to be drawn, which were too much distended with milk. From habit, she became as much delighted with this foundling as if it had been real offspring.”

“A boy (says the same gentleman) had taken three young Squirrels in their nest. These small creatures he put under a Cat who had lately lost her kittens; and found that she nursed and suckled them with the same assiduity and affection as if they had been her own progeny.—So many persons went to see the little Squirrels suckled by a Cat, that the foster-mother became jealous of her charge, and in pain for their safety; and therefore hid them over

the ceiling, where one died.—This circumstance shewed her affection for these foundlings, and that she supposed the Squirrels to be her own young *.”

Some years ago a sympathy of this nature took place, in the house of Mr. James Greenfield of Maryland, betwixt a *Cat and a Rat*. The Cat had kittens, to which she frequently carried Mice and other small animals for food; and among the rest she is supposed to have carried to them a young Rat. The kittens, probably not being hungry, played with it; and when the Cat gave suck to them, the Rat likewise sucked her. This having been observed by some of the servants, Mr. Greenfield was informed of it. He had the kittens and Rat brought down stairs, and put on the floor; and in carrying them off, the Cat was remarked to convey away the young Rat as tenderly as she did any of the kittens. This experiment was repeated as often as any company came to the house, till great numbers had become eye-witnesses of the preternatural affection †.

These incidents form no bad solution of that strange circumstance, asserted by grave historians as well as poets, of exposed children being sometimes nurtured by female wild beasts that probably had lost their young. For it is no more marvellous that *Romulus* and *Remus*, in their infant state, should be nursed by a she Wolf: than that a sucking Leveret, a set of young Squirrels, or a Rat,

* White's Naturalist's Calendar, 94, 95.

† Letter from Mr. Brooke of Maryland, in *Genl. Mag.* xxii. 202.

should be fostered and cherished by a fierce *Gri-malkin*.

To preserve their fur clean, and especially their whiskers, Cats wash their faces, and generally quite behind their ears, every time they eat. As they cannot lick those places with their tongues, they first wet the inside of the leg with the saliva, and then repeatedly rub them over with it. This Dr. Darwin, whimsically enough, esteems an act of reasoning; Because, says he, a means is used to produce an effect: which means seems to be acquired by imitation, like the greatest part of human arts.

A friend of the Doctor's saw a Cat catch a Trout, by darting upon it in a deep clear water, at the mill at Weaford, near Litchfield. The Cat belonged to Mr. Stanley; who had often seen her catch fish in the same manner in the summer, when the mill-pool was drawn so low that the fish could be seen. Other Cats have been known to take fish in shallow water, as they stood on the bank. This he thinks a natural act of taking prey, which their acquired delicacy by domestication, has, in general, prevented them from using, though their desire of eating fish continues in its original strength.

These animals seem to possess something like an additional sense by means of their whiskers, which have perhaps some analogy to the antennæ of Moths and Butterflies. The whiskers of Cats consist not only of long hairs on their upper lips, but also of four or five long hairs standing up from each eyebrow, and also two or three on each cheek; all which, when the animal crests them, make with

their extremities so many points in the periphery of a circle equal (at least), in extent, to the circumference of any part of their own bodies. With this instrument, it is supposed that, by a little experience, they can at once determine whether any aperture among hedges or shrubs (in which animals of this genus live in their wild state) is large enough to admit their bodies ; which to them is a matter of the greatest consequence, whether pursuing or pursued. They have likewise a power of erecting and bringing forward the whiskers on their lips ; which probably is for the purpose of feeling whether a dark hole be farther permeable *.

Cats are very seldom, like the Dog, attached to our persons : all their attachment seems to be confined to the houses where they have been brought up. Instances are very common of Cats returning, of their own accord, to the place from whence they have been carried ; though at the distance of many miles, and even across rivers where they could not possibly have had any knowledge either of the road or the direction that would lead them to it. This may perhaps arise from their having been acquainted in their former habitations with all the retreats of the Mice, and the passages and outlets of the house ; and from the disadvantage which they must experience in these particulars by changing their residence.

No experiment can be more beautiful than that of setting a kitten for the first time before a looking-glass. The animal appears surprised and pleas-

ed with the resemblance, and makes several attempts at touching its new acquaintance; and, at length, finding its efforts fruitless, it looks behind the glass, and appears highly astonished at the absence of the figure. It again views itself; and tries to touch the image with its foot, suddenly looking at intervals behind the glass. It then becomes more accurate in its observations; and begins, as it were, to make experiments, by stretching out its paw in different directions; and when it finds that these motions are answered in every respect by the figure in the glass, it seems, at length, to be convinced of the real nature of the image. The same is the case with the Dog at an early age.

The sleep of the Cat, though generally very slight, is, however, sometimes so profound, that the animal requires to be shaken pretty briskly before it can be awakened. This particularity takes place chiefly in the depth of winter, and on the approach of snowy weather. At such periods also, as well as at some others, the Cat diffuses a fragrant smell, somewhat like that of cloves.

It is generally supposed, that Cats can see in the dark: but, though this is not absolutely the case, it is certain that they can see with much less light than most other animals; owing to the peculiar structure of their eyes, the pupils of which are capable of being contracted or dilated in proportion to the degree of light by which they are affected. In the day-time, the pupil of the Cat's eye is perpetually contracted, and sometimes into a mere line; for it is with difficulty that it can see by a strong light:

but in the twilight the pupil resumes its natural roundness, and the animal enjoys perfect vision.—It appears somewhat singular, that, on plunging the head of a Cat into water, although the animal be exposed to a very bright light, the pupil should become immediately expanded to all its width. This, however, is to be accounted for on optical principles*.

It has been remarked, that the eyes of Cats always shine with a bright light when they are in the dark. The Rev. William Jones was induced to make some experiments on this circumstance, from having observed, among the eyes of some Sheep and Oxen which he had procured for dissection, that one of them shone in the day-time much in the same manner as the eyes of Cats do in the dark. On examining into this, he found that if his hand was placed between the nearest window and the extremity of the optic nerve (a part of which, nearly an inch long, remained with the eye, and was accidentally pointed towards the window), the light immediately disappeared †.—From this he was led to consider, whether the light that appears in the eyes of some animals in the night time, is really a *reflection* of light from the eye, as is commonly supposed; or, whether it does not rather *pass into the eye, through the optic nerve, from the body of the animal?* It is not easy to conceive how this shining light can be occasioned by a reflection of light from the bottom

* Martyn, iii. 192.

† Essay on the First Principles of Natural Philosophy.

of the eye, when the light to be reflected (as in a dark night) is not visible before its entrance into the eye. If a candle be held before the eyes of a Dog, and a person places himself in a line of reflection, the light will be visibly reflected from the eyes, because the illumination is sufficiently strong; but where there is no visible illumination at all, this cannot account for the like effect. It is, therefore, more reasonable to suppose that this appearance is owing to the light from within the body of the animal; which, being weaker than the light of the day, but stronger than that of the night, is visible only in the dark. This light is probably similar to that which we observe in putrifying meat, fish, rotten-wood, phosphorus, and the Glow-worm.

The fur of the Cat, being generally clean and dry, readily yields electric sparks when rubbed; and if a clean and perfectly dry Domestic Cat be placed, in frosty weather, on a stool with glass feet or insulated by any other means, and rubbed for a little time in contact with the wire of a coated vial, the vial by this means will become effectually charged.

In the time of Howel Dda, *Howel the Good*, Prince of Wales, who died in the year 948, laws were made both to preserve and fix the prices of different animals; among which the Cat was included, as being, at that early period, of great importance, on account of its scarcity and utility. The price of a kitten before it could see, was fixed at one penny; till proof could be given of its having caught a Mouse, two-pence; after which it was

rated at four-pence, a great sum in those days, when the value of specie was extremely high. It was likewise required, that the animal should be perfect in its senses of hearing and seeing, should be a good mouser, have its claws whole, and, if a female, be a careful nurse. If it failed in any of these qualifications, the seller was to forfeit to the buyer the third-part of its value.—If any one should steal or kill the Cat that guarded the Prince's granary, the offender was to forfeit either a milch ewe, her fleece, and lamb; or as much wheat as, when poured on the Cat suspended by its tail (its head touching the floor), would form a heap high enough to cover the tip of the tail.—From these circumstances we may conclude, that Cats were not originally natives of these islands; and from the great care taken to improve and preserve the breed of this prolific creature, we may with propriety suppose that they were but little known at that period*.

When M. Baumgarten was at Damascus, he saw there a kind of hospital for Cats: The house in which they were kept was very large, walled round, and was said to be quite full of them. On enquiring into the origin of this singular institution, he was told, that Mahomet, when he once lived here, brought with him a Cat, which he kept in the sleeve of his gown, and carefully fed with his own hands. His followers in this place, therefore, ever afterwards paid a superstitious respect to these animals; and supported them in this manner by public alms,

* Penn. Brit. Zool. i. 93.

which were very adequate to the purpose*. The patience, craft, vigilance, utility, and cleanliness, of the Cat, have also obtained for it the highest degree of protection in the Eastern mythology ; so far indeed, that it is esteemed the noblest species of its tribe†.

The following curious fact in the natural history of the Cat, is related by Dr. Anderson ; in his entertaining work, the *Recreations in Agriculture* :—A Cat belonging to Dr. Coventry, the ingenious Professor of Agriculture in Edinburgh, which had no blemish at its birth, lost its tail by accident when it was young. It had many litters of kittens ; and in every one of these there was one or more that wanted the tail, either wholly or in part.

“ A Cat (says Browne) is a very dainty dish among the Negroes ‡.”

THE ANGORA CAT §.

The Angora Cat is a variety of the domestic species. When M. Sonnini was in Egypt, he had one of them in his possession for a long time. It was entirely covered with long silky hairs : Its tail formed a magnificent plume ; which the animal elevated, at pleasure, over its body. Not one spot, nor a single dark shade, tarnished the dazzling

* Baumgarten's Travels. Churchill's Coll. i. 477.

† D'Obsonville, 80.

‡ History of Jamaica, 485.

§ SYNONYMS.—γ *Felis Angorensis*. Linn.—Chat d'Angora. Buffon. Angora Cat. Penn.

white of its coat. Its nose and lips were of a delicate rose-colour. Two large eyes sparkled in its round head ; one of which was a light yellow, and the other a fine blue.

This beautiful animal had even more loveliness of manners, than grace in its attitude and movements. With the physiognomy of goodness, she possessed a gentleness truly interesting. How ill soever any one used her, she never attempted to advance her claws from their sheaths. Sensible to kindness, she licked the hand which caressed, and even that which tormented her. On a journey, she reposed tranquilly on the knees of any of the company, for there was no occasion to confine her ; and if M. Sonnini, or some other person whom she knew, was present, no noise whatever gave her the least disturbance.

In Sonnini's solitary moments, she chiefly kept by his side ; she interrupted him frequently in the midst of his labours or meditations, by little caresses extremely affecting, and generally followed him in his walks. During his absence, she sought and called for him incessantly, with the utmost inquietude : and, if he was long before he re appeared, she would quit his apartment, and attach herself to the person of the house where he lived ; for whom, next to himself, she entertained the greatest affection. She recognized his voice at a distance ; and seemed on each fresh meeting with him, to feel increased satisfaction. Her gait was frank, and her look as gentle as her character. She possessed, in a word,

the disposition of the most amiable Dog, beneath the brilliant fur of a Cat.

“ This animal (says M. Sonnini) was my principal amusement for several years. How was the expression of her attachment depicted upon her countenance ! How many times have her tender caresses made me forget my troubles, and consoled me in my misfortunes ! My beautiful and interesting companion, however, at length perished. After several days of suffering, during which I never forsook her, her eyes, constantly fixed on me, were at length extinguished ; and her loss rent my heart with sorrow *.”

THE WEESELS.

THE Weesel tribe was divided by Linnæus into two genera, *Viverra* and *Mustela* ; the latter of which contained also the Otters. Mr. Pennant and Dr. Shaw have, however, with great propriety, united these two ; and separated from them the Otters, as possessing webbed feet, a character sufficiently discriminating. To the latter, Dr. Shaw has appropriated the generic name of *Lutra*.

The present genus therefore, as thus corrected, contains animals which have six sharpish cutting-teeth, with the canine-teeth somewhat longer ; a

* Sonnini, i. 292,

long and slender body, with short legs ; a sharpened visage ; and, in most species, a longish tail. In some of this tribe also, the tongue is smooth ; and, in others, it is furnished with prickles pointing backwards.

THE ICHNEUMON *.

The Ichneumon is a native of Egypt, Barbary, and the Cape of Good Hope. Its length, from the tip of the nose to the end of the tail, is from twenty-four to forty-two inches, of which the tail occupies nearly one-half. Its colour is pale reddish-grey, each hair being mottled with brown or mouse-colour. The eyes are of a bright red ; the ears almost naked, small, and rounded ; and the nose long and slender. The tail is very thick at the base ; from whence it gradually tapers to almost a point, where it is slightly tufted. The hair is hard and coarse ; and the legs are short.

In Egypt, the Ichneumon is considered as one of the most useful and estimable of animals ; being an inveterate enemy to the Serpents and other noxious reptiles which infest the neighbourhood of the Torrid zone. It attacks without dread that most fatal of Serpents, the *Cobra di Capello* or Hooded Snake † ; and when it receives a wound in the combat, instantly retires, and is said to obtain an

* SYNONYMS.—Viverra Ichneumon. *Linn.*—Egyptian Ichneumon. *Kerr.*—Great Mangouste.—*Sm.* *Buffon.*—Ichneumon.—*Penn.*—*Shaw's Gen. Zool. pl. 92.*

† Coluber Naja of Linnaeus.

antidote from some herb, after which it returns to the attack and seldom fails of victory. It is a great destroyer of the eggs of Crocodiles, which it digs out of the sand; and even kills multitudes of the young of those terrible creatures. It was not, therefore, without reason, that the ancient Egyptians ranked the Ichneumon among their deities.

It is at present domesticated, and kept in houses, in India and Egypt, where it is found more useful than a Cat in destroying Rats and Mice. It is easily tamed, is very active, and springs with great agility on its prey. It will glide along the ground like a Serpent, and seem as if without feet. It sits up like a Squirrel, eats from its fore feet, and catches any thing that is flung to it. It is a great enemy to Poultry, and will feign itself dead to attract them within its reach. It is said to be extremely skilful in seizing the Serpent by the throat, in such a manner as to avoid receiving any injury*. *Lucan* has beautifully described the same address of this animal in conquering the Egyptian Asp.—

Aspidas ut *Pharias* cauda solertior hostis
Ludit, et iratas incerta provocat umbra :
Obliquansque caput vanas serpentis in auras
Effusæ toto comprehendit guttura morsu
Lentiferam citra saniem : tunc irrita pestis
Exprimitur, faucesque fluunt pereunte veneno.

Thus oft th' *Ichneumon*, on the banks of *Nile*,
Invades the deadly *Aspic* by a wile ;

* Penn. Quad. ii. 326.

While artfully his slender tail is play'd,
The Serpent darts upon the dancing shade :
Then, turning on the foe, with swift surprise,
Full on the throat the nimble seizer flies ;
The gasping Snake expires beneath the wound,
His gushing jaws with poisonous floods abound
And shed the fruitless mischief on the ground.

“ I had (says M. D'Obsonville, in his *Essays on the Nature of various foreign Animals*) an Ichneumon very young, which I brought up.—I fed it at first with milk ; and afterwards with baked meat, mixed with rice. It soon became even tamer than a Cat ; for it came when called, and followed me, though at liberty, into the country.

“ One day I brought to him a small Water Serpent alive, being desirous to know how far his instinct would carry him against a being with which he was hitherto totally unacquainted. His first emotion seemed to be astonishment mixed with anger, for his hair became erect ; but in an instant after, he slipped behind the reptile, and with a remarkable swiftness and agility leaped upon its head, seized it, and crushed it between his teeth. This essay, and new aliment, seemed to have awakened in him his innate and destructive voracity ; which, till then, had given way to the gentleness he had acquired from his education. I had about my house several curious kinds of fowls, among which he had been brought up, and which, till then, he had suffered to go and come unmolested and unregarded ; but, a few days after, when he found himself alone, he

strangled them every one, ate a little, and, as appeared, drank the blood of two *."

In a wild state, the Ichneumon is said, to frequent principally the banks of rivers; and in times of flood, to approach the higher grounds and inhabited places in quest of prey. He is reported to swim and dive occasionally, in the manner of an Otter; and to continue beneath the water for a great length of time. His voice is very soft, somewhat like a murmur; but unless the animal is struck or irritated, he never exerts it. When he sleeps, he folds himself up like a ball; and is not easily awaked. —The Ichneumons are short-lived, but grow very rapidly. In our temperate climates, they cannot, without great difficulty, be either reared or preserved. Whatever care be taken, the frosts incommode them, and they generally fall victims to the change.

THE STRIATED WEESEL †.

This is one of three or four species of Weesel, natives of America, whose only mode of defence against their enemies (and it is a perfectly secure one) is to emit from their bodies a vapour so fetid that few animals can bear to come within its influence. Cattle that are near are so alarmed, as to utter the most dreadful bellowings. Dogs are indeed sometimes trained to hunt them; but, in

* D'Obsonville, 76.

† SYNONYMS.—*Viverra Putorius*.—*Linn.*—Skunk. *Fiskatta*. *Polecat*. *Kalm*. *Catesby*.—Striped Skunk. *Kerr*.—*Coneparte*. *Buffon*. Striated Weesel. *Penn.*—*Shaw's Gen. Zool.* pl. 94.

order to relieve themselves, they are under the necessity of frequently thrusting their noses into the earth. The odour may be smelt to an amazing distance ; and so abominable is its stench, as to affect provisions in such a manner that nothing can afterwards make them eatable. When the animal is irritated or killed near a dwelling, the whole place becomes infected ; the clothes, provisions, and all the rooms, are, in a few minutes, so saturated with the vapour, that no one can live in or use them for a very long time. Clothes, although several times washed, soaked, and dried in the sun, retain their smell sometimes for weeks.

Professor Kalm says, that one of these creatures being one day perceived in its cave, a woman, unthinkingly, attacked and killed it. The whole place was in a moment filled with such a dreadful stench, that the woman was taken ill, and continued so for several days ; and the provisions were so infected, that they were all thrown away*.

These animals have, by travellers, had indiscriminately the names of *Devil's Children*, and *Stinking Beasts*.—Strange as it may appear, they are sometimes domesticated ; and as they never emit their fetor except when alarmed or irritated, they are not dreaded in this state : “ but (an eminent Zoologist justly observes) they ought surely to be treated with the highest attention.”

* Kalm's Travels.

THE HONEY-WEESEL OR RATEL*.

This animal, which is a native of the Cape, is, from the nose to the tail, about two feet long. Its back is ash-coloured; and along its sides runs a light-grey stripe, that divides this from its belly, which is black. The legs are short; and the claws long, and formed for burrowing. It lives in holes under ground, and is said to be very fetid.

The Ratel seems formed by nature to be the adversary of the Bees, and the unwelcome visitor of their habitations; and is endued with a particular faculty of discovering and attacking them within their entrenchments — As a man placed at the mast-head, can most easily descry a sail or land at a great distance in the evening, so probably this time of the day is the most convenient for the Ratel to look out for his food: for he is likewise said to be particularly attentive to his business about sun-set; when he will sit and hold one of his paws before his eyes, in order to modify the rays of the sun, and at the same time to procure a distinct view of the object of his pursuit: and when, in consequence of peering in this manner on each side of his paw, opposite to the sun, he sees any Bees fly, he knows that they are at this time going straight to their own habitation, and consequently takes care to keep in the same direction in order to find them. He has, besides, the sagacity to follow the *Cuculus Indicator*, a little bird,

* SYNONYMS.—*Viverra Mellivora*. Linn.—Honey-weesel. Shaw.
—Ratel. Sparrman.—Bew. *Qua.* 219.

which flies on, by degrees, with a peculiar and alluring note, and guides him to the Bees'-nests.

As the Ratel's hairs are stiff and harsh, so its hide is tough, and the animal itself difficult to kill. The Colonists and Hottentots both assert, that it is almost impossible to kill this creature, without giving it a great number of violent blows on the nose; on which account they usually destroy it by shooting it, or by plunging a knife into its body.—The shortness of his legs will not permit him to make his escape by flight, when pursued by the Hounds. He is able, however, sometimes to extricate himself from their clutches, by biting and scratching them in a most terrible manner: while, on the other hand, he is perfectly well defended from the assaults of their teeth by the toughness of his hide; for, when a Hound endeavours to bite him, it can lay hold only on this part, which instantly separates from the creature's body or flesh, as it is reported to lie loose from the skin, as within a sack; so that, when any one also catches hold of him by the hind part of his neck, and that even pretty near his head, he can turn round, as it were, in his skin, and bite the arm that seizes him. It is a remarkable circumstance, that such a number of Hounds as are able collectively to tear in pieces a Lion of moderate size, are said to be sometimes obliged to leave the Ratel dead in appearance only. Is it not, therefore, probable, that Nature, which seems to have destined the Ratel for the destruction of Bees, may have bestowed on it a hide so much tougher than those she has given to other animals of the Viverra kind, for the

purpose of defending it from the stings of these insects ?

Those Bees'-nests that are built in trees, are in no danger whatever from the Ratel. In the first transports of his rage at having sought after these Bees in vain, he gnaws and bites the trunks of the trees ; and these bites are sure marks for the inhabitants of the country, that a Bees'-nest is to be found there. I should myself, says Dr. Sparrman, have entertained many doubts concerning these properties attributed to the Ratel, had I not obtained various accounts of this curious animal, exactly corresponding with each other, from many experienced farmers and Hottentots living in different parts of the Cape of Good Hope *.

THE CIVET †.

The Civet is somewhat more than two feet long, and has a tail about half the length of its body. The ground colour is yellowish ash-grey, beautifully marked with large blackish or dusky spots. The hair is coarse ; and, along the back, stands up, so as to form a sort of mane. The body is thickish ; and the nose sharp, and black at the tip. Three black stripes proceed from each ear, and end at the throat and shoulders. The eyes shine in the dark. It is an inhabitant of several parts of Africa and India ; and will not breed in more temperate regions, though

* Sparrman's Voyage.

† SYNONYMS.—*Viverra Civetta*. *Linn.*—Civet Cat. *Far.*—Civet. *Buffon.*—*Sharpe's Gen. Zool.* pl. 95.—*Bew. Quad.* 244.

it lives and appears in perfect health in them : in its own climate it is very prolific.

It is active and nimble ; jumping about like a Cat, and running very swiftly. It feeds on small animals : but particularly on Birds, which it takes by surprize ; and it sometimes commits depredations among poultry, when it can steal unperceived into a farm-yard. It is very voracious ; and will often roll itself, for a minute or two, on its meat, before eating. One that Barbot had at Guadaloupe was, from the carelessness of his servant, kept without food for a whole day : the animal, on the following morning, gnawed his way through the cage in which he was kept, came into the room where M. Barbot was writing, and, staring about with his sparkling eyes for a few seconds, made a leap of five or six feet at a fine American Parrot, that was perched on a piece of wood put into the wall for the purpose. Before his master could run to the relief of the bird, the Civet had torn off its head, and begun to feast himself on his prey *. Though the Civet is naturally savage, it is capable of being tamed, and rendered tolerably familiar. Its voice is stronger than that of a Cat, and somewhat resembles the cry of an enraged Dog.

This animal is remarkable for the production of the drug called civet, sometimes erroneously confounded with musk. This substance is a secretion, formed in a large double glandular receptacle situated at some little distance beneath the tail, and

* Barbot, v. 114, 211.

which the creature empties spontaneously. The Dutch keep great numbers alive at Amsterdam, for the purpose of collecting the drug from them. When a sufficient time for the secretion has been allowed, the animal is put into a long wooden cage, so narrow that it cannot turn itself round. The cage being opened by a door behind, a small spoon, or spatula, is introduced through the orifice of the pouch, which is carefully scraped and its contents put into a proper vessel. This operation is performed twice or thrice a-week; and the animal is said always to produce the most civet after being irritated. The quantity depends in a great measure also on the quality of the nourishment which it takes, and the appetite with which it eats. In confinement, its favourite food is boiled meat, eggs, birds, and small animals, and particularly fish.

While the French army was in Egypt, the king of Dar-fûr sent four Civets to the generals; and some information was at the same time acquired respecting the treatment of the animals in that country. Since very few of them are found there, and these few are brought from a great distance, the inhabitants have found it expedient to adopt some modes of increasing the produce of the *civet*. They introduce into the bag a small quantity of butter or other fat; then shake the animal violently, and by beating, irritate and enrage it as much as possible. This, they say, greatly accelerates the secretion; and the fat also by these means imbibes so much of the *civet*, that the women of Dar-fûr use it upon their hair. To this barbarous usage it is in a great mea-

sure owing, that the animals become excessively ferocious.

A Civet is kept at present in the Museum of Natural History in Paris which has been there more than five years. Its odour is at all times very powerful, but unusually so whenever the animal is irritated. It sleeps with its body rolled round, and its head between its legs. This posture it seldom changes either in the night or day ; and it sleeps so soundly that it cannot be roused without severe blows *.

With respect to the *civet* procured from Amsterdam, it is less adulterated, and therefore held in higher estimation, than that imported from India or the Levant. Its average value in Holland is about fifty shillings an ounce ; but this is subject to considerable fluctuations. The substance is accounted best when new, of a whitish colour, a good consistence, and of a strong disagreeable smell.—This perfume is excessively powerful ; but in small quantities it is more pleasant than musk, to which it bears some resemblance.

THE MEXICAN WEESEL †.

The Mexican Weesel is about two feet and a half in length, with a long prehensile tail. The general colour is an olive-yellow, mixed with grey-brown,

* La Menagerie du Museum National d'Histoire Naturelle.

† SYNONYMS.—*Viverra prehensilis*. Kerr.—Kinkajou. Buffon.—Quincajou ou Carajou. Charlevoix.—Mexican Weesel. Penn.

and lighter beneath than above. It is found in Mexico and New Spain.

Its manners in confinement are gentle and sprightly. During the day it generally sleeps; but awakes in the evening, and begins to climb about and search for food. It uses its tail with great dexterity, in seizing and securing such things as it cannot otherwise reach; but has been observed never to extend this, till its feet are perfectly secure. It tears every thing it finds; either for amusement, or in quest of insects. This mischievous propensity alone prevented one of these animals, that was kept by M. Chaveu, at Paris, from being suffered to range at liberty. Before this was discovered, he used to be let loose at night; and how far soever he might range in the dark, he was always found the next morning lying in the same place. He distinguished his master, whom he would follow and caress though not very tractable. He ate bread, meat, vegetables, and fruit; drank milk and water, and even spirits if sweetened, with which he would so intoxicate himself as to continue sick for several days. He was passionately fond of perfumes and sweetmeats. He frequently attacked the poultry, always seizing them under the wing; and seemed to drink their blood, but never devoured them. His voice, which was only exerted in the night, was somewhat like the barking of a Dog. When he was sporting about, or when he received any injury, he uttered a cry somewhat like that of a young Pigeon; and when he meant to threaten, he hissed like a Goose. He always seemed extremely afraid of going into the water.

Another of these animals, that was exhibited in 1773, at the fair of St. Germain, appeared for some time of a very mild disposition, and would lick the hand of any person who invited such a mark of familiarity. But by frequent irritations of the populace it was afterwards rendered mischievous, and always attempted to bite at the hand after licking it. This creature would often sit upright, and scratch itself with its fore paws; was very playful, would fold its paws into each other, and perform many apish tricks. It ate from its paws. When irritated, it always endeavoured to leap on the person from whom the affront came. It laid hold of any thing it wanted with its tail, and would frequently hang by this part: when walking, the tail was always carried horizontally*.

The claws are long; by which it is enabled to climb trees with great ease, where it waits for prey, and from whence it sometimes darts upon small animals that are below. These have no other chance of escaping than by immediately rushing into the water, if there is an opportunity at hand; when the Weesel is obliged to let go his hold in order to save himself. When he seizes on any animal, he folds his tail round it; and gnaws a small hole in its neck, through which he sucks the blood.

Charlevoix says, it frequently leaps upon the neck of the Moose-deer, where it first fixes itself securely, then cuts into the jugular vein, and does not move from its station (unless forced by the animal's

* Buff. Quad. vii. 287—292.

plunging into the water) till the creature falls down from loss of blood *.

He is hunted by Foxes ; who search for him as he lies in wait for his prey, and seldom fail to carry him off †.

THE PINE MARTIN ‡

Is about eighteen inches long. It is of a dark chestnut colour, and has a yellow throat and breast. It frequents the pine forests of all the northern regions, but particularly of America ; and is found even in some parts of England.

Its general retreat is in the hollow of some tree ; so high up, and in other respects so situated, as to afford it perfect security. The nest of the Squirrel is generally preferred : of this the Martin dispossesses the ingenious architect by killing him. The Martin now enlarges the dimensions of its new habitation ; lines it with softer materials ; and in that secure retreat, brings forth its young.

Its courage is so great, that it will attack animals much larger and stronger than itself. It sometimes seizes the Sheep and the Hare : and, if necessity obliges, will combat the fury of even the Wild Cat ; which, though much stronger, is always worsted, and often killed.

Notwithstanding this ferocity of disposition, the Pine Martin is easily rendered docile. Gesner says

* Charlevoix, Travels in America, i. 201.

† Buff. Quad.

‡ SYNONYMS.—*Viverra Martes*. Shaw.—*Mustela Martes*. Linn.—*Marder*. Ridinger.—*Marte*. Buffon.—*Bew. Quad.* 231.

he kept one, which was extremely playful and entertaining. It used to go to the houses of the neighbours, and always returned home when it wanted food. It was particularly fond of a Dog with which it had been bred up ; and would play with him as Cats do, lying on its back, and pretending to bite him. Buffon had one, which, though it had lost its ferocity, did not however discover any marks of attachment, and continued so wild as to require being chained. It frequently escaped from its confinement : at first it returned after some hours absence, but without appearing pleased ; the time of absence of each succeeding elopement gradually increased, and at last it took a final departure. During its confinement, it sometimes slept for two days without intermission. When preparing for sleep, it formed its body into a circle ; and hid its head, which it covered with its tail.

These animals have a musky smell, which to many persons is very agreeable. Their cry is sharp and piercing ; but is never uttered except when in pain or distress. Their principal food consists of Rats, Mice, and other small quadrupeds ; poultry, game, &c. and they are also remarkably fond of honey.

The female produces three or four young, which soon arrive at a state of maturity. She is able to afford them but a small quantity of milk ; but she compensates for this natural defect, by bringing home eggs and live birds to her offspring, and thus early accustoms them to a life of carnage and plunder. As soon as the young are able to leave the nest, she leads them through the woods ; where

they begin to seize on their prey, and to provide food for themselves.

Pine Martins are hunted in the North for the sake of their furs, which are held in great estimation : the most valuable part is that which extends along the back. In England these are used to line the robes of magistrates, and for several other purposes. They form a considerable article of commerce ; above twelve thousand being annually imported into this country from Hudson's Bay, and more than thirty thousand from Canada *.

THE SABLE†.

The Sable is a native of North America, Siberia, Kamtschatka, and Asiatic Russia. It is about eighteen inches in length ; and has a longish and rather sharpened head. Its general colour is a deep glossy brown.

The skin of the Sable is more valuable than that of any other animal. One of these, not above four inches broad, has sometimes been valued as high as fifteen pounds ; but the general price is from one pound to ten, according to their quality. The Sable's fur is different from all others, in the hair turning with equal ease either way. The bellies of Sables, which are sold in pairs, are about two fingers in breadth ; and are tied together in bundles of

* Church's Cabinet of Quadrupeds.

† SYNONYMS.—*Viverra Zibellina*. Shaw.—*Mestela Zibellina*. Linn.—Sable Weasel. Penn.—Zibeline. Buffon.—*Beau. Quad.* 232.

forty pieces, which are sold at from one to two pounds a-bundle. The tails are sold by the hundred, at from four to eight pounds.

The manner in which the natives of Kamtschatka take these animals, is very simple. They follow the track of the Sable, in snow-shoes, till they have detected his covert, which is generally a burrow in the earth. As soon as the little creature is aware of his pursuers, he escapes into some hollow tree : which the hunters surround with a net, and then either cut it entirely down, or force the animal by fire and smoke to abandon his retreat, when he falls into the net and is killed. They sometimes surround the tree in which a Sable is lodged, with Dogs trained for the purpose ; and then, making a running noose on a pretty strong cord, find means to get the creature's head into the snare, and thus haul him down an easy prey*.

In other parts, where these animals are less common, the contrivances to take them are more artificial. Of this kind is the Sable-trap of the Vogules, which is used in several parts of Siberia :—A place is found where two young trees stand not far asunder. These are immediately stripped of their branches about the bottom ; and near one of them a post is stuck into the ground, on which a beam is placed horizontally, so fastened to both trees, that one end of it lies between the post and the tree. Over this beam another is laid, as a trap-fall ; at the end of which a thin support is put, which, when the

* Lessep, i. 39.

trap-fall is up, stands over the notched end of the post. At the extremity of the support is a mat-string, and another at the lower transverse beam, tied very short. Both are brought together; and a stick is put through them, having at its lower extremity a piece of flesh or wild-fowl attached, which, by its preponderance, keeps the stick down, and thus holds the two strings together. The Sable creeps cautiously along the lower beam, till he can reach the bait, and pull it to him; this looses the stick to which the bait is tied, and by which the strings were held together; the stay slips its hold, and consequently the upper beam falls upon the shoulders of the animal and holds him fast.

Sables frequent the banks of rivers, and the thickest parts of the woods. They live in holes underground, and especially under the roots of trees; but they sometimes make their nest (consisting of moss, small twigs, and grass) in the hollows of trees. The female brings forth in the spring, and produces from three to five at a time. In winter they live on berries of different kinds; but in the summer-time, before these are ripe, they devour Hares, Weesels, Ermines, and other small animals*.

The Sable is a lively and active animal; and leaps with great agility from tree to tree, in pursuit of birds or Squirrels. It is said to feed also on wild fruits and berries. M. Gmelin saw two of these animals that had been in some measure domesticated. Whenever they saw a Cat, they would rise on their

* Grieve, 110.

hind feet to prepare for a combat. In the night, they were extremely restless and active ; but during the day, and particularly after eating, they generally slept so sound for half an hour, or an hour, that they might be pushed, shaken, and even pricked, without being awakened.

The chase of the Sable, according to Mr. Pennant, was, during the more barbarous periods of the Russian Empire, the principal task of the unhappy exiles who were banished into Siberia ; and who, as well as the soldiers sent there, were obliged to furnish, within a given time, a certain quantity of furs : but as Siberia is now become more populous, the Sables have, in a great measure, quitted it, and retired farther to the north and east, into the desert forests and mountains*.

THE COMMON WEESEL †.

This is an active little animal, well-known in our own country. Its length, exclusive of the tail, is about seven inches ; and its height, not above two and a half. The colour of its upper parts is a pale reddish-brown : and its breast and belly are white ; but on each side, below the corners of the mouth is a brown spot. The ears are small and rounded, and the eyes black.

* Penn. Quad. ii. 323.

† SYNONYMS.—*Viverra Vulgaris*. Shaw.—*Mustela Vulgaris*. Linn. Weesel. Fitchit. Fomart, or Foulmart. Ray.—Whitnet, or Whitred. Sibald.—Shaw's Gen. Zool. pl. 93.—Bew. Quad. 229.

It is very destructive to young birds, poultry, Rabbits, and several other animals; and it sucks eggs with great avidity. In this latter operation, it begins by making a small hole at one end, from which it licks out the yolk, leaving the shell behind; whereas Rats, and some other animals, always drag the egg out of the nest, and either make a large hole in it or break it to pieces. By this circumstance the attacks of the Weesel may always be distinguished.—Its form is elegant, but, like some others of this genus, it has an unpleasant smell. It lives chiefly in cavities under the roots of trees, and in the banks of rivulets; from whence it sallies out on the approach of evening, to commit its devastations.

M. de Buffon supposed the Weesel to be untameable; but Mademoiselle de Laistre, in a letter on this subject, gives a very pleasing account of the education and manners of a Weesel which she took under her protection*. This she fed with fresh meat and milk, the latter of which it was very fond of. It frequently ate from her hand, and seemed to be more delighted with this manner of feeding than any other. “If I pour (says this lady) some milk into my hand, it will drink a good deal; but if I do not pay it this compliment, it will scarcely take a drop. When it is satisfied, it generally goes to sleep. My chamber is the place of its re-

* In general, however, when in confinement, they are in perpetual agitation, appear much disturbed by the sight of Man, and refuse to eat in the presence of any person; and usually, if they are not allowed some place where they can hide themselves, they soon die.

sidence ; and I have found a method of dispelling its strong smell by perfumes. By day, its sleeps in a quilt, into which it gets by an unsown place which it had discovered on the edge : during the night, it is kept in a wired box or cage ; which it always enters with reluctance, and leaves with pleasure. If it be set at liberty before my time of rising, after a thousand little playful tricks, it gets into my bed, and goes to sleep in my hand or on my bosom. If I am up first, it spends a full half-hour in caressing me ; playing with my fingers like a little Dog, jumping on my head and on my neck, and running round on my arms and body with a lightness and elegance which I never found in any other animal. If I present my hands at the distance of three feet, it jumps into them without ever missing. It shews a great deal of address and cunning in order to compass its ends, and seems to disobey certain prohibitions merely through caprice. During all its actions, it seems solicitous to divert, and to be noticed ; looking, at every jump, and at every turn, to see whether it is observed or not. If no notice be taken of its gambols, it ceases them immediately, and betakes itself to sleep ; and even when awaked, from the soundest sleep it instantly resumes its gaiety, and frolics about in as sprightly a manner as before. It never shews any ill-humour, unless when confined, or teased too much ; in which case it expresses its displeasure by a sort of murmur, very different from that which it utters when pleased.

“ In the midst of twenty people, this little animal distinguishes my voice, seeks me out, and

springs over every body to come at me. His play with me is the most lively and caressing ; with his two little paws he pats me on the chin, with an air and manner expressive of delight. This, and a thousand other preferences, shew that his attachment to me is real. When he sees me dressed for going out, he will not leave me, and it is not without some trouble that I can disengage myself from him ; he then hides himself behind a cabinet near the door, and jumps upon me as I pass, with so much celerity that I often can scarcely perceive him.

“ He seems to resemble a Squirrel in vivacity, agility, voice, and his manner of murmuring. During the summer, he squeaks and runs about all night long ; but since the commencement of the cold weather, I have not observed this. Sometimes, when the sun shines while he is playing on the bed, he turns and tumbles about and murmurs for a while.

“ From his delight in drinking milk out of my hand, into which I pour a very little at a time, and his custom of sipping the little drops and edges of the fluid, it seems probable that he drinks dew in the same manner. He very seldom drinks water, and then only for want of milk ; and with great caution, seeming only to refresh his tongue once or twice, and to be even afraid of that fluid. During the hot weather, it rained a good deal. I presented to him some rain water in dish, and endeavoured to make him go into it, but could not succeed. I then wetted a piece of linen cloth in it, and put it near him ; when he rolled upon it with extreme delight.

“ One singularity in this charming animal is his curiosity ; it being impossible to open a drawer or a box, or even to look at a paper, but he will examine it also. If he gets into any place where I am afraid of permitting him to stay, I take a paper or a book, and look attentively at it ; when he immediately runs upon my hand, and surveys with an inquisitive air whatever I happen to hold. I must further observe, that he plays with a young Cat and Dog, both of some size ; getting about their necks, backs, and paws, without their doing him the least injury.”

The method of taming these creatures is, according to M. de Buffon, to stroke them gently over the back ; and to threaten, and even to beat them, when they attempt to bite. Aldrovandus tells us, that their teeth should be rubbed with garlic, which will take away all their inclination to bite !

The last mentioned author quotes from Strozza the following part of an elegy on the death of a tame Weesel.

Nil poterat puero te gratius esse ; nec illi
 Morte tua quicquam tristius esse potest.
 Tu digitos molli tentabas improba morsu,
 Porrecto ludens semisupina pede ;
 Et mollem e labiis noras sorbere salivam,
 Et quiddam exiguo murmure dulce queri.

Loving and lov'd ! thy master's grief !
 Thou could'st th' uncounted hours beguile ;
 And, nibbling at his finger soft,
 Watch anxious for th' approving smile :

Or stretching forth the playful foot,
Around in wanton gambols rove ;
Or gently sip the rosy lip,
And in light murmurs speak thy love*.

The motion of the Weesel consists of unequal leaps ; and, on occasion, it has the power of springing some feet from the ground. It is remarkably active ; and will run up a wall with such facility, that no place is secure from it.—It is useful to the farmer in ridding him of Rats and Mice, which it will pursue into their holes and there kill ; but its depredations are not altogether confined to these pernicious animals, as it also very frequently destroys young Poultry and Pigeons. It seizes its prey near the head ; and but seldom eats it upon the spot, generally carrying it away to its retreat.—It often destroys the Moles in their habitations ; as is proved by its being at times caught in the traps laid for those animals. We are told that when it pursues the Hare, that timid creature is terrified into a state of absolute imbecility ; and gives itself up without the least resistance, making, at the same time, the most piteous outcries.

A story is related, that an Eagle, having seized a Weesel, mounted into the air with it, and was soon after observed to be in great distress. His little enemy had so far extricated itself, as to be able to bite him very severely in the neck ; which presently brought the bird to the ground, and gave the Weesel an opportunity of escaping.

* Shaw, i. 422—425.

The female brings forth in the spring, and generally produces four or five at a litter. She prepares for them a bed of moss, leaves, and straw. Aldrovandus tells us, that when she suspects they will be stolen from her, she carries them in her mouth from place to place, changing her retreat even several times a-day.—M. de Buffon informs us, that, in his neighbourhood, a Weesel with three young ones was taken out of the body of a Wolf, that had been hung on a tree by the hind feet. The Wolf was in a state of putrefaction; and the Weesel had made a nest of leaves and herbage, in the thorax.

Among other curious particulars respecting this animal, it has been observed, that, when asleep, its muscles are in such a state of extreme flaccidity, that it may be taken up by the head, and swung backwards and forwards like a pendulum several times, before it will awake.

The Weesel is found in all the temperate parts of Europe, and also in Barbary: but in the bleak northern climates it is very scarce.—In Siberia there is a white variety, the skins of which are chiefly sent to China, where they are sold at the rate of three or four rubles each.

THE OTTER TRIBE.

THE Otters differ from the Weesels, in living almost constantly in the water; from whence they principally derive their food, which consists of fish,

Their bodies are very long, and their legs short. They burrow and form their dwellings in the banks of rivers and lakes, in the neighbourhood of the situations in which they find their prey.

They have, in each jaw, six sharpish cutting-teeth; the lower ones of which do not stand in an even line with the rest, but two are placed somewhat within. The canine-teeth are rather longer than the others. The animals of this tribe have all webbed feet.

THE COMMON OTTER *.

The Common Otter is about two feet in length, from the nose to the insertion of the tail; and the length of the tail is nearly sixteen inches. It is a native of almost every part of Europe, and is still to be met with in some parts of England. Its legs are short, but strong and muscular. The head is broad, oval, and flat on the upper part; and the body is long and round. The legs are so placed as to be capable of being brought into a line with the body, and of performing the office of fins. The toes are connected by webs. The general colour of these animals is a deep brown.

They inhabit the banks of rivers; and though they sometimes seize on the smaller quadrupeds and on poultry, their principal food is fish. “The Otter

* SYNONYMS.—*Lutra Vulgaris*. *Shaw*.—*Mustela Lutra*. *Linn*.—Greater Otter. *Penn*.—*Loutre*. *Buffon*.—*Shaw's Gen. Zool. pl.* 100. *Bew. Quad.* 451.

(says Mr. Pennant) shews great sagacity in forming its habitation. It burrows under-ground in the bank of some river or lake : and always makes the entrance of its hole under water, working upwards to the surface of the earth ; and, before it reaches the top, it provides several *holls*, or lodges, that in case of high floods it may have a retreat (for no animal seems desirous of lying drier), and then makes a minute orifice for the admission of air. It is further observed, that this animal, the more effectually to conceal its retreat, contrives to make this little air-hole in the midst of some thick bush *.

In some parts of North America, Otters are seen in winter at a distance from any apparent open water, both in woods and on plains ; but it is not known what leads them to such situations. If pursued, when among the woods where the snow is light and deep, they immediately dive, and make considerable way under it ; but they are easily traced by the motion of the snow above them, and soon overtaken. The Indians kill numbers of them with clubs, by tracking them in the snow ; but some of the old ones are so fierce, when closely pressed, that they turn upon and fly at their pursuers.

They are very fond of play ; and one of their favourite pastimes is, to get on a high ridge of snow, bend their fore-feet backward, and slide down the side of it, sometimes to the distance of twenty yards †.

Otters, though naturally of a ferocious disposition,

* Penn. Brit. Zool.

† Hearne, 375.

may, if taken young and properly educated, be completely tamed. The training of them, however, requires both assiduity and perseverance : but their activity and use, when taught, sufficiently repay this trouble ; and few animals are more beneficial to their masters. The usual method is first to teach them to fetch, in the same way as Dogs ; but, as they have not an equal docility, so it requires more art and experience to instruct them. It is usually performed by accustoming them to take in their mouths a truss made of leather, and stuffed with wool, of the shape of a fish ; to drop it at a word of command ; to run after it when thrown forward, and to bring it to their master. Real fish are next employed ; which are thrown dead into the water, and which they are taught to fetch from thence. From dead fish they are led to living ones, till at last they are perfectly instructed in the whole art of fishing. An Otter thus educated, is very valuable ; he will catch fish enough to sustain not only himself but a whole family. “ I have seen (says Dr. Goldsmith, from whom this information is taken) an Otter go to a gentleman’s pond at the word of command, drive the fish into a corner, and, seizing upon the largest of the whole, bring it off, in his mouth, to his master *.”

A person of the name of Collins, who lived at Kilmerston, near Wooler, in Northumberland, had a tame Otter, which followed him wherever he went. He frequently took it to fish in the river ; and

* Goldsmith, iv. 146.

when satiated, it never failed to return to its master. One day, in the absence of Collins, the Otter being taken out to fish by his son, instead of returning as usual, refused to come at the accustomed call, and was lost. The father tried every means to recover it ; and, after several days search, being near the place where his son had lost it, and calling it by its name, to his inexpressible joy it came creeping to his feet, and shewing many marks of affection and firm attachment.

Some years ago, James Campbell, near Inverness, had a young Otter, which he brought up and tamed. It would follow him wherever he chose ; and, if called on by its name, would immediately obey. When apprehensive of danger from Dogs, it sought the protection of its master, and would endeavour to spring into his arms for greater security. It was frequently employed in catching fish, and would sometimes take eight or ten Salmon in a day. If not prevented, it always made an attempt to break the fish behind the fin next the tail ; and, as soon as one was taken away, it immediately dived in pursuit of more. When tired, it would refuse to fish any longer ; and was then rewarded with as much as it could devour. Having satisfied its appetite, it always coiled itself round, and fell asleep ; in which state it was generally carried home. The same Otter fished as well in the sea as in fresh water, and took great numbers of young Cod and other fish there.

Another person who kept a tame Otter, suffered it to follow him with his Dogs. It was very useful to him in fishing ; by going into the water, and driv-

ing Trout and other fish towards the net. It was remarkable, that Dogs accustomed to Otter hunting, were so far from giving it the least molestation, that they would not even hunt any Otter while this remained with them ; on which account the owner was under the necessity of disposing of it *.

The method of fishing with a tame Otter, is mentioned in the *Prædium Rusticum* of Vaniere ; in a passage which has been thus translated :

“ Should chance within this dark recess betray
The tender young, bear quick the prize away.
Tam'd by thy care, the useful brood shall join
The wat'ry chace, and add their toils to thine ;
From each close lurking-hole shall force away,
And drive within thy nets, the silver prey :
As the taught Hound the timid Stag subdues,
And o'er the dewy plain the panting Hare pursues.”

M. Poissonnier, considering the account of Vaniere as fabulous, procured a young Otter, which he tamed, in order to put it to the test ; and to his great surprise, found that after a little instruction it would run to a small river, about a hundred yards from his house, and very seldom returned without a live fish in its mouth. He also brought it to such a state of domestication, that to whatever distance it went, it always returned, with the utmost punctuality, to its kennel.

This writer contradicts an assertion frequently made, that the Otter is amphibious ; for his never plunged into the water but in search of prey, and

* Bew. Quad. 452, 453.

it then always returned as speedily as possible to the bank, where it shook itself like a Water-spaniel. When it was obliged to continue in the water for any length of time, it frequently raised its head to the surface to breathe; and he believes it would have been killed had it been forced to remain under water for half an hour*.

When the Otter, in its wild state, has caught a fish, it immediately drags it ashore, and devours the head and upper parts, leaving the remainder: and when domesticated, it will eat no fish except such as are perfectly fresh; but will prefer bread, milk, &c. It generally hunts against the stream; and when more than one are fishing at the same time, they are frequently heard to utter a sort of loud whistle to each other, as if by way of signal. When two of them (as sometimes happens) are hunting a Salmon, one stations itself above, and the other below the place where the fish is: and they continue to chase it, till, becoming perfectly wearied out, it surrenders itself a quiet prey†. The Otter, when it hunts singly, has two modes of taking its prey. The first is by pursuing it from the bottom upwards: this is principally done with the larger fish; whose eyes being placed so as not to see under them, the animal attacks them by surprise from below, and, seizing them by the belly, drags them away. The other mode is by hunting them into some corner of the pond or lake, and there seizing them. The latter, however, can only be practised in water where there

* Le Moniteur Universel, Nivose 21, An vii. † Penn. B.it. Zool.

is no current, and on the smaller fish; for it would be impossible to force the large ones out of deep water *. The Otter is as noxious in a fish-pond, as the Polecat in a hen-roost; he frequently kills more fish than he can eat, and then carries off but one in his teeth.

The female produces four or five young at a birth, and these in the spring of the year. Where there have been ponds near a gentleman's house, instances have occurred of their littering in cellars or drains.—The male utters no noise when taken, but the pregnant females emit a shrill squeak †.—Otters are generally caught in traps placed near their landing places, and carefully concealed in the sand. When hunted with Dogs, the old ones defend themselves with great obstinacy. They bite severely, and do not readily quit their hold where they have once fastened. An old Otter will never yield while it has life; nor make the least complaint, though wounded ever so much by the Dogs, nor even when transfixed with a spear.

In the northern parts of America, these animals change their colour in winter to white, like most of the other Arctic animals; and it is not till very late in the spring that they resume their brown summer dress.

The flesh is exceedingly rank and fishy; so much so, that the Romish Church permitted the use of it on maigre-days. In the kitchen of the Carthusian convent near Dijon, Mr. Pennant saw one of them

* Church.

† Brit. Zool. i. 95.

cooking for the dinner of the religious of that rigid order; who by their rules are prohibited, during their whole lives, the eating of flesh *.—The Kamtschadales use the Otter's fur for garments; and the North American Indians manufacture their skins into pouches, which they ornament with bits of horn,

THE SEA OTTER †.

The Sea Otter is found on the coast of Kamtschatka, and in the adjacent islands, as well as on the opposite coasts of America; but it is confined within a very few degrees of latitude. Its whole length is about four feet, of which the tail occupies thirteen inches. The fur is extremely soft, and of a deep glossy black. The ears are small and erect, and the whiskers long and white. The legs are short and thick, the hinder ones somewhat resembling those of a Seal. The weight of the largest Sea Otters is from seventy to eighty pounds.

In their manners these animals are very harmless; and towards their offspring they exhibit an uncommon degree of attachment. They will never desert them; and will even starve themselves to death on being robbed of them, and strive to breathe their last on the spot where their young have been destroyed.—The female produces only a single young one at a time; which she suckles almost a whole

* Penn. Brit. Zool. i. 94.

† SYNONYMS.—*Lutra Marina*. Shaw.—*Mustela Lutris*. Linn.—Sea Otter. Penn.—Shaw's Gen. Zool. pl. 101.—Bew. Quad. 465.

year, and till it takes to itself a mate.—The Sea Otters pair, and are very constant. They often carry their young between their teeth, and fondle them, frequently flinging them up and catching them again in their paws. Before these can swim, the old ones will take them in their fore feet, and swim about with them upon their backs *.

The Sea Otters swim sometimes on their sides ; at other times on their backs, or in an upright position. They are very sportive, embrace each other, and seem to kiss †.—When attacked they make no resistance, but endeavour to save themselves by flight : if, however, they are closely pressed, and can see no means of escape, they scold and grin like an angry Cat. On receiving a blow, they immediately lie on their side, draw up their hind legs together, cover their eyes with their fore paws, and thus seem to prepare themselves for death. But if they are fortunate enough to escape their pursuer, they deride him as soon as they are safe in the sea, with various diverting tricks : at one time keeping themselves on end in the water, and jumping over the waves, holding their fore paw over the eyes as if to shade them from the sun while looking out for their enemy ; then lying flat on their back, and stroking their belly ; then throwing their young down into the water and fetching them up again. In their escape they carry the sucklings in their mouths, and drive before them those that are full-grown ‡.

The skins of the Sea Otters are of great value, and

* Grieve, 131.

† Penn. Arct. Zool. i. 89.

‡ Fooke.

have long formed a considerable article of export from Russia. They are disposed of to the Chinese at the rate of eighty or a hundred rubles each *. The trade for this fur at Nootka, had, not many years ago, nearly produced a war between Great Britain and Spain.—They are sometimes taken with nets, but are more frequently destroyed with clubs and spears. The young animals are said to be delicate eating, and not easily to be distinguished from Lamb. The flesh of the old ones is insipid and tough.

THE BEAR TRIBE.

THE Bears have six front teeth in each jaw. The two lateral ones of the lower jaw are longer than the rest, and lobed with smaller or secondary teeth at their internal bases. There are five or six grinders on each side; and the canine teeth are solitary. The tongue is smooth, and snout prominent. The eyes are furnished with a nictitating or winking membrane †.

The soles of the feet in all the animals belonging to this tribe are long, and extend to the heel; which gives them a very firm tread. Some of the species use their fore paws as hands. From the length and sharpness of their claws, they are all able to

* Marchand, i. 207.

† Linn. Gmel. i. 190.

climb trees in search of prey, or to escape from their enemies.

THE COMMON BEAR *.

The Common Bears are inhabitants of the forests in the northern regions of Europe, and are also found on some of the Indian Islands. They vary much in colour; some of them being brown, others black, and others grey. The Brown Bears live chiefly on vegetables; and the Black ones in a great measure on animal food, on Lambs, Kids, and even Cattle, which they destroy, sucking the blood in the manner of the Weesel tribe. They generally blow up the carcasses of such animals as they kill, and hide in the marshes what they cannot devour.

They are said to be particularly fond of honey. In search of this they climb trees, in order to get at the nests of wild Bees; for the Bear, notwithstanding his awkward form, is expert in climbing, and sometimes takes up his residence in the hollow of a large tree. He will also catch and devour fish; and occasionally frequents the banks of rivers for that purpose.

He is a savage and solitary animal, living in the most retired and unfrequented parts of the forest. Great part of the winter he spends in his den, in a state of repose and abstinence. During this period the females bring forth and suckle their young.

* SYNONYMS.—*Ursus Arctos*. *Linn.*—Ours. *Buffon.*—Common, or Brown Bear, *Penn.*—*Shaw's Gen. Zool.* pl. 102.—*Bew. Quad.* 261.

These are generally two in number : they are at first round and almost shapeless, with pointed muzzles ; but are not, as the ancient naturalists supposed, licked into regular form by the mother. They are about eight inches long when produced, and are said to be blind for nearly a month *.—The Bears go into their winter retreats extremely fat ; but as they eat nothing during that season, they come out excessively lean in the spring : and from the circumstance of nothing but a frothy slime having been found in the stomachs of those that have been killed on their re-appearance, a general opinion has been maintained that they support themselves through the winter by sucking their paws †.—Thomson has, with great truth and beauty, described the retreat of these animals in the frozen climate of the North :

There through the piny forest half absorpt,
Rough tenant of those shades, the shapeless Bear,
With dangling ice all horrid, stalks forlorn :
Slow-pac'd, and sourer as the storms increase,
He makes his bed beneath th' inclement drift ;
And, with stern patience, scorning weak complaint,
Hardens his heart against assailing want.

* The Authors of *La Menagerie du Muscum National* assert, that, from observations made on the Bears in the marshes of Berne, the young ones, immediately on their birth, are covered with short and bright hair, and in their appearance are much more elegant than the parents. They assert also that these have always round their necks a circle of white hairs ; and that they have themselves seen a Bear three feet in length, which still preserved this mark, only the hair was become yellowish. The latter animal was usually observed in the act of sucking its paws.

† Grieve, 103.

The Black Bears, we are told, are remarkably attached to each other. The hunters never dare to fire at a young one, while the dam is on the spot; for, if the cub happens to be killed, she becomes so enraged, that she will either avenge herself, or die in the attempt. If, on the contrary, the mother should be shot, the cubs will continue by her side long after she is dead, exhibiting the most poignant affliction. A man nearly lost his life, a few years ago, in Hungary, by firing at a young Bear, in the presence of its dam, who had indeed been concealed from his sight by some bushes; for, at one blow with her paw, she brought off a great part of his scalp *. This animal seldom uses its teeth as weapons of defence, but generally strikes its adversary very strongly with its fore-paws like a Cat; and if possible, seizes him between its paws, and presses him to its breast with such force as almost instantly to suffocate him.

The most usual way of killing the Bears, is by means of fire-arms or arrows. The Laplanders easily overtake them, in their snow shoes, and knock them down with clubs; but they generally first shoot them and then dispatch them with spears.

In some parts of Siberia, the hunters erect a scaffold of several barks laid over each other; which fall altogether, and crush the Bear, upon his stepping on the trap placed underneath.—Another method is, to dig pits; in which a smooth, solid, and very sharp-pointed post is fixed into the ground, rising about a

* Townson's Travels, 371.

foot above the bottom. The pit is carefully covered over with sods ; and across the track of the Bear, a small rope with an elastic figure is placed. As soon as the Bear touches the rope, the wooden figure starts loose ; and the affrighted animal, endeavouring to save himself by flight, falls with a violent force into the pit, and is killed by the pointed post. If he escapes this snare, at a little distance several Caltrops* and other instruments of annoyance frequently await him ; among which, a similar image is erected. The persecuted beast, the more he strives to get free, fixes himself faster to the spot ; and the hunter who lies in ambush, soon dispatches him.

Yet not only beneath and upon the earth, but even in the air, has Man's inventive genius contrived to lay snares for the liberty and the life of this animal. The Koriacks, for this purpose, find some crooked tree, grown into an arched form ; at the bowed end of which they attach a noose, with a bait. The hungry Bear is tempted by this object, and eagerly climbs into the tree, where he becomes infallibly the victim of his attempt ; for, on his moving the branch, the noose draws together, and he remains suspended to the tree, which violently springs back into its former position.

But still more singular and ingenious is the method adopted by the inhabitants of the mountainous

* Irons with four spikes ; so formed that, whichever way they fall, one point always lies upwards. These are generally used for throwing into breaches, or on bridges, in time of war, to annoy an enemy's cavalry.

parts of Siberia, to make this ferocious animal become his own destroyer. They fasten a very heavy block to a rope, that terminates at the other end with a loop. This is laid near a steep precipice, in the path on which the Bear is accustomed to go. On getting his neck into the noose, and finding himself impeded by the clog, he takes it up in a rage, and to free himself from it, throws it down the precipice : it naturally pulls the Bear after it, and he is killed by the fall. Should this, however, accidentally not prove the case, he drags the block again up the mountain, and reiterates his efforts ; till, with increasing fury, he either sinks nerveless to the ground, or ends his life by a decisive plunge.

The Bear's well-known partiality for honey, gives occasion to one of the Russian modes of taking him. To those trees where the Bees are lived, a heavy log of wood is hung at the end of a long string. When the unwieldy creature climbs up to get at the hive, he finds himself interrupted by the log ; he pushes it aside, and immediately attempts to pass it ; but in returning, it hits him such a blow, that in a rage, he flings it from him with greater force, which makes it return with increased violence upon himself ; and he sometimes continues this, till he is either killed, or falls from the tree.

In some parts of the North, a single man will venture to attack a Bear in the open plains ; and without any other instrument than a stiletto, pointed at both ends and fastened to a thong, and a sharp knife. The thong he wraps about his right arm, up

to the elbow ; and, taking his stiletto in this hand, and his knife in the left, he advances towards the animal, who on its hind-legs waits the attack. The hunter, the moment it opens its mouth, with great resolution and address thrusts his hand into its throat ; and placing the stiletto there, not only prevents it from shutting its mouth, but also gives it such exquisite pain, that the Bear can make no further resistance, and suffers the hunter either to stab it with his knife, or to lead it about wherever he pleases *.

These animals are so numerous in Kamtschatka, that they are often seen roaming about the plains in great companies ; and they would infallibly have long since exterminated all the inhabitants, were they not here much more tame and gentle than the generality of Bears in other parts of the world. In spring, they descend in multitudes from the mountains (where they have passed the winter) to the mouths of the rivers, for catching fish, which swarm in all the streams of that peninsula. If there be plenty of this food, they eat nothing but the heads of the fish ; and when, at any time, they find the fishermen's nets, they dexterously drag them out of the water, and empty them of their contents.

When a Kamtschadale espies a Bear, he endeavours to conciliate its friendship at a distance, accompanying his gestures by courteous words. The Bears are indeed so familiar here, that the women and girls, when gathering roots and herbs, or turf

* Grieve.

for fuel, in the midst of a whole drove of Bears, are never disturbed by them in their employment ; and if any of one of these animals comes up to them, it is only to eat something out of their hands. They have never been known to attack a man, except when roused on a sudden from sleep ; and they very seldom turn upon the marksman, whether they be hit or not.—This humane character of the Kamtschadale Bear, who herein differs so remarkably from his brethren of most other countries, procures him however, no exemption from the persecutions of mankind. His great utility is a sufficient instigation to the avarice of Man, to declare eternal war against him. Armed with a spear, or club, the Kamtschadale goes in quest of the peaceful animal, in his calm retreat ; who, meditating no attack, and intent only on defence, gravely takes the faggots which his persecutor brings him, and with them, himself chokes up the entrance to his den. The mouth of the cavern being thus closed, the hunter bores a hole through the top, and transfixes with the greatest security his defenceless foe *.

They are sometimes cruel enough to lay a board driven full of iron hooks, in the Bear's track ; placing near it something heavy, which the animal must throw down as he passes. Alarmed by this, he runs upon

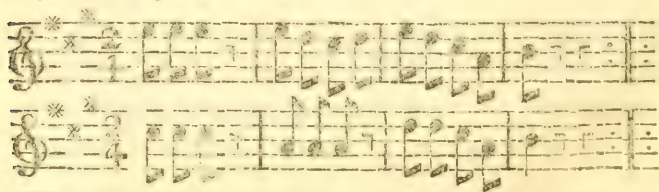
* A method nearly similar is practised by some of the North American Indians, with the Bears of that country. They block up the dens with logs of wood : and then break in at the top, and either kill the animal with a spear or gun ; or else put a snare about his neck, and, drawing his head close to the hole, dispatch him with their hatchets. Hearne, 370.

the board with greater force than he would otherwise do ; and, finding one of his paws wounded, and fixed by the hooks, he endeavours to free himself by striking it forcibly with the other. Both the paws being now fixed, bellowing with pain he rises on his hind feet ; this motion immediately brings the board before his eyes, and so perplexes him, that he throws himself down in fury, and his violent struggles at length destroy him.

It would be difficult to name a species of animals, except the Sheep, so variously serviceable to man after its death, as the Bear is to the Kamtschadales. Of the skin, they make beds, covertures, caps and gloves, and collars for their sledge-dogs. Those who go upon the ice for the capture of marine animals, make their shoe soles of the same substance, which thus never slip upon the ice. The fat of the Bear is held in great estimation by all the inhabitants of Kamtschatka, as a very savoury and wholesome nourishment ; and, when rendered fluid by melting, it supplies the place of oil. The flesh is esteemed a great delicacy. The intestines, when cleansed and properly scraped, are worn by the *fair sex*, as masks to preserve their faces from the effects of the sun-beams ; which here, being reflected from the snow, are generally found to blacken the skin, but by this means the Kamtschadale ladies preserve a fine complexion. The Russians of Kamtschatka make of these intestines window panes, which are as clear and transparent as those made of Muscovy-glass. Of the shoulder-blades, are made sickles for cutting grass ; and the heads and haunches are hung up by

these people, as ornaments or trophies, on the trees about their dwellings *.

The Kamtschadales also owe infinite obligations to the Bears, for the little progress they have hitherto made, as well in the sciences, as even in the *polite arts*. They confess themselves indebted to these animals for all their knowledge of physic and surgery: by observing what herbs the Bears have applied to the wounds they have received, and what methods they have pursued when they were languid, and disordered, this people have acquired a knowledge of most of those simples which they have recourse to either as external or internal applications. But the most singular circumstance of all is, that they admit the Bears to be their *dancing-masters*; and, in what they call the *Bear-dance*, every gesture and attitude of that animal is so faithfully portrayed, as to afford sufficient indications to what they are indebted for this acquirement. They represent the Bear's sluggish and stupid gait: and its different feelings and situations; as the young ones about the dam, the amorous sports of the male with the female, and its agitation when pursued. The tune to one of these dances I shall insert;—this is always sung by the dancers, to a jumble of words that are frequently devoid of any meaning.



All their other dances are similar to the Bear-dance, in many particulars ; and those attitudes are always thought to approach nearest to perfection, which most resemble the motions of the Bear *.

If the uses of the Bear be so various to the Kamtschadales, not less general is the wear of his fine and warm fur to persons of the higher classes in Russia. A light black Bear-skin is one of the most comfortable and costly articles in the winter wardrobe of a man of fashion, at Petersburg or Moscow.

Dr. Townson has remarked, in the Hungarian Bear, pretty nearly the same characteristics as I have just noticed in that of Kamtschatka. He says, that however savage these animals may be accounted, they seem to be considerably less so than Man : for the Hungarian children go into the woods, and collect the cranberries, &c. which is a depredation on the property of the Bears (who feed on them), without a single attack from those animals ; nor has any person in that country been known to be hurt by them, without having first commenced the assault.

He was informed, by the peasantry of Hungary, (what, he says, he had often before heard,) that when the Bears leave the woods, and come into the corn-fields at night to feed, they draw the standing corn through their fore paws, then rub the detached ears between them, blow away the chaff, and eat the grain †.—Mr. Pennant tells us, that Bears are very fond of peas ; of which they will tear up great quantities, and, beating them out of the shells on

* Lessep, vi. 101. Cooke's last Voyage, iv. 100. † Townson, 391.

some stone or hard spot of ground, eat the grain, and carry off the straw to their dens.

It is well known, that the Bear may, with some little difficulty, be rendered tame and docile ; and it has then the appearance of being mild and obedient to its master ; but it is not to be trusted, without caution. It may be taught to walk, to lay hold of a pole with its paws, and perform various tricks to entertain the multitude ; who are highly pleased with the awkward measures of this rugged animal, which it seems to suit to the sound of an instrument, or to the voice of its leader. But, to give the Bear this kind of education, it is necessary to have it taken young, and to accustom it early to restraint and discipline. An old Bear will suffer no restraint without discovering the most furious resentment : neither the voice nor the menaces of his keeper have any effect upon him ; he equally growls at the hand that is held out to feed, and at that which is raised to correct him.

The excessive cruelties practised on this poor animal in teaching it to walk upright, and to regulate its motions to the sound of the pipe, are such as make sensibility shudder. Its eyes are frequently put out ; and an iron ring being passed through the cartilage of the nose, to lead it by, it is kept from food, and beaten, till it yields obedience to the will of its savage tutors. Some of them are taught to perform, by setting their feet upon heated iron plates, and then playing music to them while in this uneasy situation. It is truly shocking to every feeling mind, to reflect that such cruelties should be

exercised upon any part of the brute creation by our fellow-men. That these should be rewarded by numbers of unthinking people, who crowd around to see the animal's rude attempts to imitate human actions, is not to be wondered at: but it is much to be wished that the timely interference of the magistrate would prevent every exhibition of the kind; that in England, at least, we might not be reproached with tolerating practices so disgraceful to humanity*.—Thanks to the improving taste of the times! the inhuman custom of *Bear-baiting* is nearly destroyed in our country. This was formerly one of the most favourite diversions in England, and esteemed deserving of the attention of people of fashion: even the British sovereign has sometimes given a sanction to the Bear-garden, by personal attendance. In Queen Elizabeth's days, it was thought an entertainment suitable for a treat to a foreign ambassador; and when she visited Kenelworth castle, it was one of the various amusements prepared for her Majesty. Many of the nobility kept also their bear-ward, and animals for this brutal diversion, with which their Christmas gambols were principally enlivened†.

THE AMERICAN BEAR ‡.

The American Bear differs from the European species, principally in being smaller; and in having a more lengthened head, pointed nose, and longer

* Bew. Quad. 263.

† Penn. Brit. Zool. i. 79.

‡. SYNONYMS.—*Ursus Americanus*. Linn.—Black Bear. Penn.

ears. The hair is also more smooth, black, soft, and glossy. The cheeks and throat are of a yellowish-brown colour.—It is found in all the northern parts of America: migrating occasionally southwards in quest of its food, which is said to be entirely vegetable; or sometimes, when pressed by excessive hunger, fish, and particularly Herrings.

These Bears arrive in Louisiana, driven thither by the snows of the more northern climates, towards the end of autumn. At this time they are always very lean; as they do not leave the north till the earth is covered with snow, when their subsistence of course becomes very scanty.

In the country near the Mississippi, they seldom venture to any great distance from the banks of that river; but on each side have in winter such beaten paths, that persons unacquainted with them would mistake them for the tracks of men. Du Pratz says he was once (though at a distance of nearly two hundred miles from any human dwelling,) for a while deceived by one of them, which appeared as though thousands of men had been walking along it bare-footed. Upon inspection, however, he found that the prints of the feet were shorter than those of a man, and that at the end of each toe there was the impression of a claw. “It is proper (he says) to observe, that in those paths the Bear does not pique himself upon politeness, and will yield the way to nobody; therefore, it is prudent for a traveller not to fall out with him for such a trifling affair *.”

* Du Pratz, 261.

About the end of December, from the abundance of fruits they find in Louisiana and the neighbouring countries, the Bears become so fat and lazy, that they can scarcely run. At this time, when the animals are also in a condition to furnish a large quantity of oil, they are hunted by the American Indians. The nature of the chase is generally this. The Bear chiefly adopts for his retreat the hollow trunk of an old cypress; which he climbs, and then descends into the cavity from above. The hunter, whose business it is to watch him into his retreat, climbs by means of hooks a neighbouring tree, where he seats himself opposite to the hole. In one hand he holds his gun; and in the other a torch, which he darts into the cavity. Frantic with rage and terror, the Bear makes a spring from his station; but the hunter seizes the instant of his appearance, and shoots him through the head or shoulder*.

Some of the Indian tribes adopt such singular ceremonies in their chase of the Bear, that I shall transcribe the curious account of them inserted in Charlevoix Travels in North America.

“The chase of these animals is a matter of the first importance, and is never undertaken without abundance of ceremony. A principal warrior first gives a general invitation to all the hunters. This is followed by a most strict fast of eight days, a total abstinence from all kinds of food; notwithstanding which, the day is passed in continual

* Pages, i. 49.

song. This is done to invoke the Spirits of the woods to direct the hunters to the places where there are abundance of Bears. They even cut the flesh in divers parts of their bodies, to render the Spirits more propitious. They also address themselves to the manes of the beasts slain in the preceding chases, as if these were to direct them in their dreams to plenty of game. One dreamer alone cannot determine the place of the chase ; numbers must concur : but as they tell each other their dreams, they never fail to agree. This may arise either from contrivance ; or from a real agreement in their dreams, on account of their thoughts being perpetually turned on the same thing.—The chief of the hunt now gives a great feast, at which no one dares to appear without first bathing. At this entertainment they eat with great moderation, contrary to their usual custom. The master of the feast alone touches nothing ; but is employed in relating to the guests ancient tales of the wonderful feats in former chases ; and fresh invocations to the manes of the deceased Bears conclude the whole.

“ They then sally forth amidst the acclamations of the village ; equipped as if for war, and painted black. Every able hunter is on a level with a great warrior : but he must have killed his dozen great beasts before his character is established ; after which his alliance is as much courted as that of the most valiant captain.—They now proceed on their way in a direct line ; neither rivers, marshes, nor any other impediments, stop their course ; driving before them all the beasts they find. When they ar-

rive at the hunting-ground, they surround as large a space as they can with their company; and then contract their circle, searching at the same time every hollow tree, and every place fit for the retreat of a Bear: and they continue the same practice till the time of the chase is expired.

“ As soon as a Bear is killed, a hunter puts into his mouth a lighted pipe of tobacco, and blowing into it fills the throat with the smoke, conjuring the spirit of the animal not to resent what they are going to do to its body, nor to render their future chases unsuccessful. As the beast makes no reply, they cut out the string of the tongue, and throw it into the fire. If it crackles and shrivels up (which it is almost sure to do), they accept it as a good omen; if not, they consider that the spirit of the beast is not appeased, and that the chase of the next year will be unfortunate.

“ The hunters live well during the chase, on provisions which they bring with them. They return home with great pride and self-complacency: for, to kill a Bear forms the character of a complete man. They give a great entertainment, at which they make it a point to leave nothing uneaten. The feast is dedicated to a certain Genius (apparently that of Gluttony); whose resentment they dread, if they do not eat every morsel, and even sup up the melted grease in which the meat was dressed. They sometimes eat till they burst, or bring on themselves some violent disorders. The first course is, the greatest Bear they have killed: without even taking out the entrails, or skinning it; contenting them-

selves with singeing the skin, as is practised with Hogs *."

It is common with the Southern Indians of America, to tame and domesticate the young cubs of the Bear; and these are frequently taken so young that they cannot eat. On such occasions the Indians often oblige their wives to suckle them; and one of the Company's servants at Hudson's Bay, whose name was Isaac Batt, willing to be as great a brute as his Indian companions, absolutely forced one of his wives, who had recently lost her infant, to suckle a young Bear †.

Lawson, Catesby, and Brickell ‡, all relate a very surprising circumstance respecting this animal: they say that neither European nor Indian ever killed a Bear with young. In one winter upwards of five hundred were killed in Virginia; among which were only two females, and these not pregnant. The cause is, that the male has the same dislike to his offspring that the males of some other animals have; and therefore the females, before the time of their parturition, retire into the depth of the woods and rocks, to elude the search of their savage mates §.

The flesh of the American Bears is said to taste like pork. Dr. Brickell ate part of a loin of it at a planter's house in North Carolina, and mistook it for excellent pork; but such are the prejudices to which mankind are subject, that the next day,

* Charlevoix, *Travels in North America*, i. 180—187.

† Hearne, 271, ‡ *Nat. Hist. of North Carolina*, 112. § *Penn. Arct. Zool.* i. 60.

being undeceived, and invited to eat of another, he felt so much disgust, that he was not able to taste it *.

THE POLAR BEAR †.

The Polar Bear inhabits only the coldest parts of the globe ; being confined within eighty degrees of north latitude, as far as any navigators have hitherto penetrated. It is sometimes found of the length of twelve feet. It differs from the Common Bear, in having its head and neck of a more lengthened form, and the body longer in proportion to its bulk. The ears and eyes are small ; and the teeth extremely large. The hair is long, coarse, and white ; and its limbs of great strength. The tips of the nose and claws are perfectly black.

The immense numbers of these animals in the polar regions, are truly astonishing. They are not only seen at land, but often on ice-floats several leagues at sea. They are often transported in this manner to the very shores of Iceland ; where they no sooner land, than all the natives are in arms to receive them. It often happens, that when a Greenlander and his wife are paddling out at sea, by coming too near an ice-float, a white Bear unexpectedly jumps into their boat ; and, if he does not overset it, sits calmly where he first alighted, and like a passenger suffers him-

* Brickell, 111.

† SYNONYMS.—*Ursus Maritimus*. *Linn.*—White Bear. *Var.*—White Sea Bear. *Martens.*—Ours Blanc. *Buffon.*—Polar Bear. *Penn.* *Shar's Gen. Zool.* pl. 103.—*Bew. Quad.* 263.

self to be rowed along. It is probable that the Greenlander is never very fond of his unwieldy guest; however, he makes a virtue of necessity, and hospitably rows him to shore.

The Polar Bears are animals of tremendous fierceness. Barentz, in his voyage in search of a North East Passage to China, had the most horrid proofs of their ferocity in the Island of Nova Zembla; where they attacked his seamen, seizing them in their mouths, carrying them off with the utmost ease, and devouring them even in the sight of their comrades *.

Not many years ago, the crew of a boat belonging to a ship in the Whale-fishery, shot at a Bear at a little distance, and wounded it. The animal immediately set up the most dreadful howl, and ran along the ice towards the boat. Before he reached it, a second shot was fired, which hit him. This served but to increase his fury. He presently swam to the boat, and in attempting to get on board, placed one of his fore feet upon the gunnel; but a sailor, having a hatchet in his hand, cut it off. The animal still, however, continued to swim after them, till they arrived at the ship; and several shots were fired at him, which took effect: but on reaching the ship, he immediately ascended the deck; and the crew having fled into the shrouds, he was pursuing them thither, when a shot laid him dead upon the deck †.

The usual food of these animals consists of Seals.

* Heemskirk's Voyage, 14.

† Bew. Quad. 269.

fish, and the carcasses of Whales; but when on land, they prey on Deer, and other animals, as Hares, young birds, &c. They likewise eat various kinds of berries, which they happen to find. They go on the flakes of ice in search of Seals: and also attack the Arctic Walrus; but this creature makes a noble defence with its long tusks, and sometimes comes off victorious. They are said to be frequently seen in Greenland in great droves, allured by the smell of the flesh of Seals: and they will sometimes surround the habitations of the natives and attempt to break in *; when, it is added, the most successful method of repelling them is by the smoke of burnt feathers †.

The following story of the sagacity of these animals in searching for prey, is inserted from the works of the Hon. Robert Boyle: "An old Sea-captain told me that the White Bears in or about Greenland, notwithstanding the coldness of the climate, have an excellent nose; and that sometimes when the fishermen had dismissed the carcase of a Whale, and left it floating on the waves, three or four leagues from the shore, whence it could not be seen, these animals would stand as near the water as they could, and raising themselves on their hind legs, loudly snuff in the air, and with the two paws of their fore legs drive it as it were against their snouts; and when they were (as my relater supposed) satisfied whence the odour came, they would cast themselves into the sea, and swim directly to-

* Crantz, i. 73.

† Penn. Arct. Zool. i. 55.

wards the Whale : as this person and others observed, who had sometimes the curiosity to row at a distance after them, to see whether their noses would serve them for guides when their eyes could not *.

During the summer, they reside chiefly on the ice-islands ; and frequently swim from one to another, though six or seven leagues asunder †. They lodge in dens formed in the vast masses of ice ; where they breed, producing one or two young at a time. About the end of March they bring these out, and immediately bend their course towards the sea. At this time their young are not larger than a White Fox ; and their steps on the snow not bigger than a crown-piece, while those of the dam will measure near fifteen inches in length and nine in breadth.—When the masses of ice are detached by strong winds or currents, the Bears allow themselves to be carried along with them ; and as they cannot regain the land, nor abandon the ice on which they are embarked, they often perish in the open sea.

The affection between the parent and the young is so great, that they will sooner die than desert each other in distress. I shall relate an instance; one which probably the reader will recollect. “ While the

* Phil. Works of the Hon. Mr. Boyle.

† Bew. Quad. 269.—There seems considerable difference in opinion on this subject. Buffon says that they never swim more than a league at a time; that in Norway they are followed in small boats, and are soon fatigued: that also they sometimes dive, but this is only for a few seconds; and lest they should be drowned, they suffer themselves to be killed on the surface of the water.—*Buff. Quad.* viii. 221.

Carcase frigate, which went out some years ago to make discoveries towards the North Pole, was locked in the ice, early one morning the man at the mast-head gave notice that three Bears were making their way very fast over the Frozen Ocean, and were directing their course towards the ship. They had, no doubt, been invited by the scent of some blubber of a Sea-horse that the crew had killed a few days before ; which had been set on fire, and was burning on the ice at the time of their approach. They proved to be a she Bear and her two cubs ; but the cubs were nearly as large as the dam. They ran eagerly to the fire ; and drew out of the flames part of the flesh of the Sea-horse, that remained unconsumed, and ate it voraciously. The crew from the ships threw great lumps of the flesh of the Sea-horse, which they had still remaining, upon the ice. These the old Bear fetched away singly, laid every lump before her cubs as she brought it, and dividing it gave to each a share, reserving but a small portion to herself. As she was fetching away the last piece, the sailors levelled their muskets at the cubs, and shot them both dead ; and in her retreat, they wounded the dam, but not mortally. It would have drawn tears of pity from any but unfeeling minds, to have marked the affectionate concern expressed by this poor beast in the last moments of her expiring young. Though she was herself dreadfully wounded, and could but just crawl to the place where they lay, she carried the lump of flesh she had fetched away, as she had done others before ; tore it in pieces, and laid it before them : and when

she saw that they refused to eat, she laid her paws first upon one, and then upon the other, and endeavoured to raise them up : all this while it was pitiful to hear her moan. When she found she could not stir them, she went off, and when she had got to some distance, looked back and moaned ; and that not availing her to entice them away, she returned, and, smelling round them, began to lick their wounds. She went off a second time as before ; and, having crawled a few paces, looked again behind her, and for some time stood moaning. But still her cubs not rising to follow her, she returned to them again ; and with signs of inexpressible fondness, went round, pawing them, and moaning. Finding at last, that they were cold and lifeless, she raised her head towards the ship, and uttered a growl of despair, which the murderers returned with a volley of musket-balls. She fell between her cubs, and died licking their wounds.

The males, says Mr. Hearne, are, at a certain time of the year, so much attached to their mates, that he has often seen one of them, when a female was killed, come and put his two fore paws over her, and in this position suffer himself to be shot rather than quit her *.

During the winter these animals retire and bed themselves deep in the snow, or under the fixed ice of some eminence ; where they pass in a state of torpidity the long and dismal Arctic night, and re-appear only with the return of the sun.

* Hearne, 386.

Of all quadrupeds, the Polar Bear is one that has the greatest dread of heat. One of them described by Professor Pallas, would not stay in its house in the winter; although at Krasnojarsk in Siberia, where the climate is very cold. It seemed to experience great pleasure in rolling itself on the snow.—A Polar Bear that was kept in the Museum of Natural History, in Paris, suffered very greatly during the hot weather. The keepers, throughout the year, were obliged to throw upon it sixty or seventy pails of water a-day, to refresh it. This animal was fed only with bread, of which it daily consumed no more than about six pounds, notwithstanding which it became very fat.—It is not known to what age these animals live. One specimen has been in the Museum seven years, and it was full-grown when first brought. It is now blind, and appears to have many other infirmities *.

White Bears are sometimes found in Iceland; but not being natives of the island, they are supposed to have floated from the opposite coast of Greenland, on some of the huge masses of ice that are detached from those shores. After so long an abstinence as they must necessarily have undergone in the voyage, they are reduced by hunger to attack even Man, if he should come in their way. But Mr. Horrebow informs us, that the natives are always able to escape their fury, if they can throw in their way something to amuse them. “A glove (he says) is very proper for this purpose; for the Bear

* La Menagerie du Museum National d'Histoire Naturelle.

will not stir till he has turned every finger of it inside out ; and as these animals are not very dexterous with their paws, this takes up some time, and in the mean while the person makes off*.

They grow exceedingly fat ; a hundred pounds weight of that substance having been sometimes taken from a single beast. The flesh is said to be coarse, and the liver very unwholesome. The skin is valued for coverings of various kinds ; and the split tendons are said to form an excellent thread †.

THE GLUTTON ‡.

The Glutton is a native of all the countries bordering on the Northern Ocean ; it is likewise found in Canada, and about Hudson's Bay. Its length is about three feet ; exclusive of the tail, which is one foot. The top of the head, and the whole of the back, as well as the muzzle and feet, are of a blackish brown. The sides are dusky, and the tail is the colour of the body.

The most material incident in the economy of these animals, is the singular stratagem they adopt in taking their prey, which is generally some species of Deer. They are said to climb into some tree, which they do with great facility, and carry along with them a quantity of moss, to which the Deer are very partial. When any one of this tribe ap-

* Horrebow's Iceland.

† Penn. Arct. Zool. i. 55.

‡ SYNONYMS.—*Ursus Gulo*. *Linn.*—*Gulo*. *Var.*—*Vielfrass*, *Jarf.* *Jeeiven*. *Genberg.*—*Glouton*. *Buffon.*—*Glutton*. *Penn.*—*Shaw's Gen. Zool.* pl. 104.

proaches the tree, the Glutton throws down the moss. If the Deer stops to eat, the Glutton instantly darts upon its back ; and, after fixing himself firmly between the horns, tears out its eyes : which torments the animal to such a degree, that, either to put an end to its torments, or to get rid of its cruel enemy, it strikes its head against the trees till it falls down dead. The Glutton divides the flesh of the Deer into convenient portions, and conceals them in the earth for future provisions*. When the voracious animal has once firmly fixed himself by his claws and teeth, it is impossible to remove him. In vain does the unfortunate Stag seek its safety in flight : and if it does not, as has been asserted, kill itself, its enemy soon brings it to the ground by sucking its blood, and gradually devouring its body †.

The Gluttons feed also on Hares, Mice, Birds, and even on putrid flesh ; and it is said by the Norwegians (though certainly without foundation) that they carry their voracity to such a degree, as to be obliged to relieve themselves by squeezing their over-swollen bodies between two trees ; by this means exonerating their stomachs of that food which has not time to digest. If this creature seizes a carcase, even bigger than himself, he will not desist from eating so long as there is a mouthful left.

Pontoppidan was assured by a friend, a man of probity, that he had taken a Glutton alive, a cir-

* The Gluttons on the river Lena kill Horses in a similar manner.

—*Cax. Lit.* i. 481. † *Buff. Quad.* vii. 277.

cumstance which seldom takes place ; and when he was chained to a wall, his hunger drove him to attack even the stones and mortar.

He is so strong an animal, that three stout Greyhounds are scarcely able to overcome him. One that was put into the water, had two Dogs let loose at him. The Glutton soon fixed his claws into the head of one of them, and had the sense to keep the animal under water till it was suffocated.—When the Glutton is attacked, he makes a stout resistance ; for he will tear even the stock from a gun with his teeth, or break the trap in pieces in which he is caught. He is, notwithstanding, capable of being rendered tame, and of learning many entertaining tricks.

In a state of nature, he suffers men to approach him without exhibiting the least signs of fear, and even without any apparent wish to avoid them. This may be the effect of living in desert countries ; generally out of the sight, and consequently removed from the attacks, of Man.—He sometimes goes in quest of snares laid for other animals, but has too much sagacity to suffer himself to be taken. In countries where he is pretty common, the hunters complain heavily of his voraciousness in devouring their game from the traps*.

He is hunted only for his skin, which is very valuable. The Kamtschadales esteem it so much, that they say the heavenly Beings wear garments made of no other fur than this ; and they would describe

* Voy. de Gmel. iii. 492. quoted in Buff. vii. 279.

a man as most richly attired, if he had on the skin of a Glutton. The women ornament their hair with the white paws of this animal, which they esteem an elegant addition to their dress; and for the two fore paws they will sometimes give a couple of Sea Otters. No Kamtschadale can make his wife or mistress a more valuable present than by giving her one of these skins*.

THE WOLVERINE †.

The Wolverine is not uncommon in the Northern regions of America. It resembles the Wolf in size, and the Glutton in the figure of its head. The upper parts and the belly are of a reddish brown: the sides are yellowish brown; and a band of this colour crosses the back near the tail, which is long and of a chesnut colour. The face is black. The legs are very strong, thick, short, and black; and the soles of the feet are covered with hair ‡.

The pace of these animals is very slow; but their wonderful sagacity, strength, and acute scent, make ample amends for this defect. They burrow in the ground; and are said to be very fierce and savage, so much so as even to be a terror to the Wolves and Bears. They are also possessed of great courage and resolution. One of them has been known to seize on a Deer that an Indian had killed; and

* Grieve, 99.

† SYNONYMS.—*Ursus Luscus*. Linn.—Quickhatch. Edwards.—Wolverine. Penn.—*Shaw's Gen. Zool.* pl. 105. ‡ Kerr, i. 189.

though the Indian advanced within twenty yards, he still refused to abandon his capture, and even suffered himself to be shot on the fallen animal. They have also been frequently seen to take a Deer from a Wolf, before the latter had time to begin his repast after killing it. Indeed their amazing strength, and the length and sharpness of their claws, render them capable of making a strong resistance against every other animal of their own country.

As a proof of their surprizing strength, there was one at Churchill, on Hudson's Bay, some years since, that overset the greatest part of a pile of wood which measured upwards of seventy yards round and contained a whole winter's firing, to get at some provisions that had been hidden there by the Company's servants when going to the Factory to spend the Christmas Holidays. This animal had for many weeks been lurking about the neighbourhood of their tent: and had committed many depredations on the game caught in their traps and snares, as well as eaten many of the Foxes that were killed by guns set for the purpose; but he was too cunning to take either trap or gun himself. The people thought they had adopted the most effectual method to secure their provisions, by tying them up in bundles, and placing them on the top of the wood-pile. They could not suppose the Wolverine would even have found out where they were; and much less that he could get at them if he did discover them. To their astonishment, however, when they returned, they found the greatest part

of the pile thrown down, notwithstanding some of the trees with which it was constructed were as much as two men could carry. The wood was very much scattered about; and it was imagined, that in the animal's attempting to carry off his booty some of the small parcels of provisions had fallen down into the heart of the pile, and, sooner than lose half his prize, he was at the trouble of doing this. The bags of flour, oatmeal, and peas, though of no use to him, he tore all to pieces, and scattered the contents about on the snow; but every bit of animal food, consisting of beef, pork, bacon, venison, salted geese, and partridges, in considerable quantities, he carried away

The Wolverines are great enemies to the Beavers, which they sometimes take as they come from their houses; but the manner of life of the latter renders them more difficult to come at than many other animals. They commit vast depredations on the Foxes during the summer, while the young ones are small. Their quick scent directs them to the dens; and if the entrance be not large enough, their strength enables them to widen it: when they go in, and kill both the mother and her cubs. They are, in short, nearly the most destructive animals of the country they inhabit*.

* Hearne, 370.

THE RACCOON *.

The Raccoon is a native of North America, and several of the West India Islands, where it is said to inhabit the hollows of trees. Its colour is grey; and its head is shaped somewhat like that of a Fox. The face is white; and the eyes, which are large, are surrounded with a black band, from which a dusky stripe runs along the nose. The tail is very bushy, and is annulated with black. The back is somewhat arched; and the fore-legs are shorter than the others. The length of the Raccoon is about two feet, from the nose to the tail; and the tail is about a foot long.

Its food consists principally of maize, sugar-canes, and various sorts of fruits. It is also supposed to devour birds, and their eggs. When near the shores, the Raccoons live much on shell-fish, and particularly on Oysters. We are told, that they will watch the opening of the shell, dextrously put in their paw, and tear out the contents: sometimes however the oyster suddenly closes, catches the thief, and detains him, till he is drowned by the return of the tide. They feed likewise on Crabs; in the taking of which they exhibit much cunning. Brickell, who relates these circumstances, says, that the Raccoon will stand on the side of a swamp, and hang its tail over into the water; which the Crabs, mistaking for food,

* SYNONYMS.—*Ursus Lotor. Linn.*—*Mapach. Var.*—*Le Raton, Buffon.* *Raccoon. Penn.*—*Shaw's Gen. Zool. pl. 105.*

lay hold of; and as soon as the beast feels them pinch, he pulls them out with a sudden jerk. He then takes them to a little distance from the water's edge; and, in devouring them, is careful to get them cross-ways in his mouth, lest he should suffer from their nippers. A species of Land Crab, found in holes of the sand in North Carolina, are frequently the food of the Raccoon. He takes them by putting one of his fore-paws into the ground, and hauling them out*. These animals feed chiefly by night; as, except in dull weather, they sleep during the greatest part of the day.

The Raccoon is an active and sprightly animal, having a singularly oblique gait in walking. His sharp claws enable him to climb trees with great facility, and he ventures to run even to the extremities of the branches.—He is easily tamed, and is then good-natured and sportive; but is almost constantly in motion, and as unlucky and inquisitive as a Monkey,—examining every thing with his paws, which he uses as hands to lay hold of whatever is given to him and to carry the meat to his mouth. He sits up to eat; and is very fond of sweet things, and strong liquors, with which latter he will even get excessively drunk. He washes his face with his feet, like a Cat.

M. Blanquart des Salines had a Raccoon, of which he has given the following particulars:—Before it came into his possession, it had always been chained. In this state of captivity it was very

* Brickell, 123.—Lawson, 121.

gentle, but had little inclination to fondness. His chain sometimes broke, and on such occasions liberty rendered him insolent. He took possession of an apartment, which he would allow none to enter; and it was with some difficulty, that he could again be reconciled to bondage. When permitted to be loosed from his confinement, however, he would express his gratitude by a thousand caressing gambols. But this was by no means the case when he effected his own escape. He would then roam about, sometimes for three or four days together, upon the roofs of the neighbouring houses; descend, during the night, into the court-yards; enter the hen-roosts, strangle all the poultry, and eat their heads. His chain rendered him more circumspect, but by no means more humane. When he was in confinement, he employed every artifice to make the fowls grow familiar with him: he permitted them to partake of his victuals; and it was only after having inspired them with the greatest notions of security that he would seize one, and tear it in pieces. Some young Cats met with the same fate.

He used to open Oysters with wonderful dexterity. His sense of touch was very exquisite; for in all his little operations, he seldom used either his nose, or his eye. He would pass an Oyster under his hind paws; then, without looking at it, search with his fore-paws for the weakest part; there sinking his claws, he would separate the shells, and leave not a vestige of the fish.

He was extremely sensible of ill-treatment.—A servant, one day, gave him several lashes with

a whip; but the man ever afterwards endeavoured in vain to accomplish a reconciliation. Neither eggs, nor fish, of which he was exceedingly fond, could appease his resentment. At the approach of this servant, he always flew into a rage; his eyes kindled, he endeavoured to spring at the man, uttered the most dolorous cries, and rejected every thing presented to him, till the disagreeable object disappeared.—He never allowed hay or straw to remain in his nest; but chose rather to lie upon wood. When litter was put in, he instantly threw it out.

Every thing he ate, he used (as indeed the whole species do) to soften, or rather dilute, in water, by immersing it in the vessel that contained the water given him for drink. The defect of saliva, or having but a small quantity of it, is most probably the cause of his adopting this mode. This immersion he only practised with dry food; for fresh meat, peaches, and raisins, he ate without it.

He disliked children; their crying irritated him, and he made every effort to spring upon them. A small Bitch, of which he was fond, he chastised severely when she barked too loud*.—According to Linnæus, the Raccoon has a wonderful antipathy to Hogs'-bristles; and is much disturbed at the sight of a brush.—The female produces two young at a birth, which commonly takes place about May.

The animal is hunted for the sake of its fur; which is used by the hatters, and is considered as next in

* Buff. Quad. v. 50.

value to that of the Beaver ; it is used also in linings for garments. The skins, when properly dressed, make good gloves, and upper-leathers for shoes.—The Negroes frequently eat the flesh of the Raccoon, and are very fond of it*.

THE BADGER †.

The Badger is an animal well known in this country. Its general length is about two feet and a half ; and that of the tail, six inches. Its body and legs are thick. The eyes and ears are small ; and the claws of the fore legs long and straight. It is of an uniform grey colour above, and in the under parts entirely black. The face is white ; and along each side of the head, runs a black pyramidal stripe, which includes the eyes and ears. The hair is coarse, and the teeth and claws peculiarly strong.—It is occasionally found in all the temperate parts of Europe and Asia.

Though in itself a harmless and inoffensive animal, living principally on roots, fruit, and other vegetable food, the Badger has been provided by Nature with such weapons, that few creatures can attack it with impunity. The address and courage with which it defends itself against beasts of prey, have caused it to be frequently baited with dogs, as a popular

* Brickell's Nat. Hist. of Carolina.

† SYNONYMS.—*Ursus Meles*. Linn.—Common Badger. Penn.—Block. Grey-pate. Ray.—Blaireu. Buffon.—Shaw's Gen. Zool. pl. 106. Bew. Quad. 254.

amusement. Though naturally of an indolent disposition, he now exerts the most vigorous efforts, and very frequently inflicts desperate wounds on his adversaries. The skin is so thick and loose, as not only to resist the impressions of the teeth, but also to suffer him, even when within their gripe, to turn round upon and bite them in the most tender parts. In this manner does he resist the repeated attacks, both of men and dogs, from all quarters ; till, overpowered with numbers, and enfeebled by wounds, he is at last obliged to submit *.

The Badger inhabits woody places, in the clefts of rocks, or in burrows which he forms in the ground. He is a very cleanly animal, keeping his subterraneous mansions exceedingly neat. He continues in his habitation during the day, and does not make his appearance abroad till the evening. At times, from indulging in indolence and sleep, he becomes excessively fat. During the severe weather of winter he remains in a torpid state in his den, sleeping on a commodious bed formed of dried grass. Under the tail is a receptacle, in which is secreted a white fetid substance, that constantly exudes through the orifice, and thus gives him a most unpleasant smell †.

These animals are not known to do any further mischief to mankind, than in scratching and rooting up the ground, in search of food ; which is always performed during the night. From this circumstance arises one of the modes usually practised in

* Bew. Quad. 255.

† Kerr, i. 187.

taking them. Their den is discovered ; and when they are abroad in the night, a sack is fastened at the mouth. One person remains near the hole to watch ; while another beats round the fields with a dog, in order to drive them home. As soon as the man at the hole hears that one has run in for refuge, he immediately seizes the mouth of the sack, ties it, and carries it off. This mode, in many parts of the country, is called, “ Sacking the Badger.” Sometimes they are caught in steel traps, placed in their haunts.

They live in pairs ; and produce in the spring four or five young. If caught before they are grown up, they may be tamed.—The skin, dressed with the hair on, is used for various purposes ; and the hairs are made into brushes for painters. The flesh, when the animals are well fed, makes excellent hams and bacon.

THE OPOSSUM TRIBE.

WE now come to a race of Quadrupeds, so singular in their conformation, as, on their first discovery, to have excited the general surprise and admiration of mankind. The females of most of the species are furnished with abdominal pouches, for the protection and preservation of their young. In some of these there are two, in others three, distinct cavities ; which can be shut or opened at pleasure, being provided with two bones for that purpose. In these pouches the young remain, hanging to the

nipples, till they are large enough to run about.—The Opossums are principally confined to the New Continent, and only one species has yet been discovered as a native of Europe.

Besides the abdominal pouch already mentioned, the characters of the present tribe are, ten front-teeth in the upper, and eight in the lower jaw ; in the former of which the two middle ones are the longest, but in the latter are broader and very short. The canine-teeth are long, and the grinders indented. The tongue is somewhat rough, being furnished with pointed papillæ.

THE VIRGINIAN OPOSSUM *

Is about the size of a small Cat : from the upright growth of its fur, it appears however, to be much thicker. Its general colour is a dingy white. The head is long, and sharpened ; and the mouth wide. The tail is about a foot long ; prehensile ; hairy at its origin, but afterwards covered with a scaly skin which gives it very much the appearance of a snake. The legs are short, and blackish ; and all the toes (except the two interior ones, which are flat and rounded, with nails like those of the Monkey tribe) are armed with sharp claws.

When it is on the ground this Opossum appears to be very helpless. The formation of its hands prevents it from either running or walking very fast :

* SYNONYMS.—*Didelphis Virginiana*. Shaw.—*Didelphis Marsupialis*. *Didelphis Opossum*? Linn.—*Opossum*. *Phil. Tran.*—*Virginian Opossum*. Shaw.—*Shaw's Gen. Zool. pl.* 107.

but in recompence for this apparent defect, it is able to ascend trees with the utmost facility and expedition ; in which situation, by the help of its prehensile tail, it is more active than most quadrupeds. It hunts eagerly after birds and their nests ; and is very destructive to poultry, of which it sucks the blood without eating the flesh. It also eats roots and wild fruits*.

When it is pursued and overtaken, it will feign itself dead, till the danger is over : and, if we may believe the account of Du Pratz, it will not when seized in this condition, exhibit any signs of life, though even placed on a red-hot iron ; and when there are any young in the pouch of a female, she will suffer both herself and them to be roasted alive rather than give them up. These creatures never move till their assailant is either gone to a distance, or has hidden himself ; on which they endeavour to scramble, with as much expedition as possible, into some hole or bush†.

They are very tenacious of life In North Carolina it is a well-known adage, “ If a Cat has nine lives, the Opossum has nineteen ‡.”

When the female is about to litter, she chooses a place in the thick bushes, at the foot of some tree. Assisted by the male, she then collects together a quantity of fine dry grass ; this is loaded upon her belly, and the male drags her and her burthen to the nest, by her tail §. She produces from four to

* Church. † Du Pratz, 265. ‡ Brickell, 125.—Lawson, 120.

§ Du Pratz, 265.

six young ones at a time. As soon as these come into the world, they retreat into her pouch or false belly, blind, naked, and exactly resembling little foetuses. They fasten as closely to the teats as if growing to them. To these they continue to adhere apparently inanimate, till they arrive at some degree of perfection in shape, and obtain their sight, strength, and hair; after which they undergo a sort of second birth. From that time they use the pouch merely as an asylum from danger. The mother carries them about with the utmost affection, and they may frequently be seen sporting in and out of this secure retreat. Whenever they are surprized, and have not time to retire into the pouch, it is said, they will adhere to the tail of the parent, and thus still endeavour to escape with her *.

The American Indians spin the hair of the Opossum, and dye it red; then weave it into girdles, and other parts of their dress. The flesh is white, and well-tasted, and is preferred by the Indians to pork: that of the young eats very much like sucking pig †.

THE MERIAN OPOSSUM †.

We have little other description of this small animal, than what is inserted in the splendid Illustration of the Insects of Surinam, by Madame Merian, from whom it has received its name. The follow-

* Penn. Aret. Zool. i. 74. † Brickell, 125.—Du Pratz, 265.

† SYNONYMS.—*Didelphis Dorsigera*. Linn.—Surinam Opossum, Kerr.—*Philandre de Surinam*. Buffon.—Merian Opossum, Penn.—*Shaw's Gen. Zool. pl. 108.*

ing is her account of it. "By way of filling up a plate, I have represented a kind of Wood-rat, that always carries her young ones (of which there are commonly five or six) upon her back. She is of a yellow-brownish colour, and white beneath. When these Rats come out of their hole, either to play or to seek their food, the young run about with their mother; and when satisfied with food, or apprehensive of danger, they climb on her back, and twist their tails round that of the parent, who thus runs with them into her hole again."

The paws resemble those of the Ape; having four fingers and a thumb, with small rounded nails. The hind feet have four sharp claws, and a round nail on the thumb of each*.

THE KANGUROO TRIBE.

THE Kanguroos (of which only two species have yet been discovered, and both of these in New Holland) are furnished, like the Opossums, with an abdominal pouch. This, and a few other characters that they have in common with that tribe, caused them to be arranged by Linnæus, along with the Opossums. They have, however, since been taken into a separate tribe with the following characteristics:—Six front teeth in the upper jaw, emarginated; and two in the lower, very large, long, and

* Kerr, i. 195.—Shaw, i. 485.

sharp, pointing forwards : five grinders on each side in both jaws, distant from the other teeth. The fore legs short, and the hinder ones very long ; and in the female an abdominal pouch containing the teats *.

THE GREAT KANGUROO †.

This singular quadruped, which was first discovered in New Holland, in the year 1770, by Captain Cook, has frequently been seen nearly nine feet in length from the tip of the nose to the end of the tail ; some of the species have been found to weigh a hundred and fifty pounds, and this is generally believed to be by no means the largest size they will arrive at. The greatest circumference of the animal is round the bottom of the belly and hips ; being very small about the head and neck, and increasing gradually downwards. The fore legs of the largest are about nineteen inches in length ; the hinder ones three feet seven inches. The shortness of the former would seem to prevent their being applied to the purpose of walking : and it has been universally conjectured, that they were of use to the animal merely in digging its burrows in the ground, and in carrying food to its mouth ; but M. Labillardiere says that one of his crew shot a young Kangaroo upon the shore, and he was much surprised to ob-

* Shaw, i. 505.

† SYNONYMS.—*Macropus Major*. Shaw.—*Macropus Giganteus*, *Nat. Miscell.*—*Didelphis Gigantea*. Linn.—*Gigantic Jerboa*. Zimmerman.—*Kanguru*. Var.—*Great Kangaroo*. Shaw.—*Shaw's Gen. Zool*, pl. 115.—*Bew. Zool.* 404.

serve that it used all its four feet in running, and did not support itself on the hinder feet only *. The hind legs, which are perfectly bare and callous beneath, are very strong; and when sitting, the animal rests on the whole of their length, its rump being elevated several inches from the ground. The claws are only three in number, the middle one exceeding the others greatly in length and strength: but the inner one is of a peculiar structure; at first sight appearing single, though on farther inspection it is seen to be really divided down the middle, and even through the ball of the toe belonging to it, appearing as if separated by a sharp instrument.

From the make of the animal, there can be little doubt that its principal progressive motion must be (notwithstanding the remark of M. Labillardiere) by leaps: in these exertions it has been seen to exceed twenty feet at a time, and this so often repeated as almost to elude the swiftness of the fleetest Greyhound; besides which, it will frequently bound over obstacles of nine feet or more in height, with the greatest ease.

The Kanguroos have also vast strength in their tail, which they occasionally use as a weapon of defence; for with it they can strike with such astonishing force as even to break the leg of a man. The colonists for some time considered this as the animals' chief defence; but having of late hunted them with Greyhounds, it was soon discovered that they use both their claws and teeth. On the

* Labillardiere, i. 177.

Hound's seizing them, they turn, and catching hold with the nails of their fore paws, strike the Dog with the claws of their hind feet, which are wonderfully strong, and tear him to such a degree that the hunters are frequently under the necessity of carrying him home on account of the severity of his wounds*.—The native Dogs of the country hunt and kill the Kangaroo; but these are more fierce than our Greyhounds. In the year 1788, one of them was seen, by one of the colonists, in this pursuit; and the person, till he had shot the Dog, mistook them both for Kangaroos†.

The Kangaroo generally feeds standing on its four feet, in the manner of other quadrupeds. It drinks by lapping. When in a state of captivity, it has sometimes a trick of springing forwards and kicking with its hind-feet in a very forcible manner; during which action it rests or props itself on the base of its tail‡.

The female has two mammæ, or breasts, in the abdominal pouch, on each of which are two teats: yet, so far as has been hitherto observed, she produces but one young one at a birth; and so exceedingly diminutive is this at its first exclusion from the uterus, that it scarcely exceeds an inch in length, and weighs but twenty-one grains. At this early period of its growth, the mouth is merely a round hole, just large enough to receive the point of the nipple; but it gradually extends with age, till capable of receiving the whole nipple, which then

* Hunter, 66.

† Ibid. 67.

‡ Shaw, i. 510.

lies in a groove, formed in the middle of the tongue, and well adapted to that purpose. It seems probable that in the first state it is attached to the teat by a viscid gelatinous substance, which is always found in the uterus. At this time, feeble as it may appear in other respects, the fore paws are, comparatively, large and strong, and the claws extremely distinct, to facilitate the motion of the little animal during its residence in the large pouch: while the hind legs, which are afterwards to become very long and stout, are now both shorter and smaller than the others. The young one continues to reside in the pouch till it has attained its full maturity, occasionally running out for exercise or amusement; and even after it has quitted this maternal retreat, it often runs into it for shelter on the least appearance of danger*.

The Kanguroos live entirely on vegetable substances, and chiefly on grass. In their native state they are said to feed in herds of thirty or forty together; and one is generally observed to be stationed, apparently on watch, at a distance from the rest. According to Labillardiere, they seem to be nocturnal animals. They have the eye furnished with nictitating or winking membranes, situated at the interior angle, and capable of being extended at pleasure entirely over the ball.—They live in burrows which they form in the ground†.

One of the most remarkable peculiarities of this animal, is the extraordinary faculty which it has of

* Phil. Tran. for 1795. Part i. p. 21. † Labillardiere, i. 177. ii. 13.

separating, to a considerable distance, the two long fore teeth in the lower jaw. This, however, is not absolutely peculiar to the Kangaroo ; but takes place also in an animal of a very different and distinct genus, the *Mus Maritimus* *.

The flesh of the Kangaroo is said to be somewhat coarse, and such as to be eaten rather from want of other food than as an article of luxury. Mr. Hunter, however, calls it good mutton ; but owns it is not quite so delicate as what he has sometimes seen bought in Leadenhall-market †.

The Kangaroo may now be considered as in a great degree naturalized in England ; several having been kept for some years in the royal domains at Richmond, which, during their residence there, have produced young, and apparently promise to render this most elegant animal a permanent acquisition to our country ; though it must, no doubt, lose, by confinement and alteration of food, several of its natural habits, and exhibit somewhat less of that bounding vivacity which so much distinguishes it in its native wilds of New Holland ‡.

THE MOLES.

THE animals composing this tribe are easily distinguished from all others ; their external appearance and habits being alone sufficient to mark them.

* Linn. Gmel. i. 140.

† Hunter, 66.

‡ Shaw, i. 512.

The body is thick, and somewhat cylindrical; and their snout formed like that of the Hog, for rooting in the ground in search of worms and the larvæ of insects, their principal food. The fore-feet are strong, and well calculated for digging those subterraneous retreats in which they entirely reside. They have no external ears; and the eyes are very small, and completely hidden in the fur. There are *seven* species.

In the upper jaw the Moles have six unequal front-teeth, and in the lower jaw eight. There is one canine-tooth on each side, in both jaws, the upper ones of which are the largest; with seven grinders above, and six below *.

THE COMMON MOLE †

Is so well-known in our country, that any particular description of its figure is unnecessary. Destined by nature to seek a subsistence under the surface of the ground, its fore-legs, which are very short and excessively strong and broad, are situated outwards, and furnished with large claws, by which it is enabled to work away the earth from before it with the utmost ease. Its hind-feet, which are much smaller, are calculated for throwing back the mould during its subterraneous progress. The snout is also slender, strong, and tendinous; and

* Linn. Gmel. i. 110.

† SYNONYMS.—*Talpa Europea*. Linn.—European Mole. Penn.—Mole. Mold-warp, or Want. Ray.—Taupe. Buffon.—*Shaw's Gen. Zool.* pl. 117.—Bew. *Quad.* 392.

there is no appearance of a neck. Its general length is between five and six inches.

The eyes of the Mole are exceedingly small ; so much so, that many have doubted whether they were intended for distinct vision, or only to afford the animal so much sensibility of the approach of light as sufficiently to warn it of the danger of exposure. They have, however, been proved to contain every property necessary to distinct sight. The faculty of hearing is said to be possessed by the Mole in a very eminent degree ; and if at any time it emerges from its retreat, it is by this means enabled instantly to disappear on the approach of danger.

The females bring forth, about the month of April, four or five young ; and the habitations in which these are deposited are constructed with peculiar care and intelligence. The parent animals begin their operations by raising the earth and forming a pretty high arch. They leave partitions, or a kind of pillars, at certain distances ; beat and press the earth ; interweave it with the roots of plants ; and render it so hard and solid, that the water cannot penetrate the vault, on account of its convexity and firmness. They then elevate a little hillock under the principal arch ; upon which they lay herbs and leaves as a bed for their young. In this situation they are above the level of ground, and consequently beyond the reach of ordinary inundations. They are at the same time defended from the rains by the large vault that covers the internal one, upon the summit of which last they rest along with their

young. This internal hillock is pierced on all sides with sloping holes ; which descend still lower, and serve as subterraneous passages for the mother to go out in quest of food for herself and her offspring. These bye-paths are beaten and firm ; they extend about twelve or fifteen paces, and issue from the principal mansion like rays from a centre. Under the superior vault we likewise find remains of the roots of the meadow-saffron, which seem to be the first food given to the young.

In summer, the Mole descends to the low hillocks and flat land ; and, above all, makes choice of meadows for the place of its residence, because it finds the earth there fresher and softer to dig through. If the weather continues long dry, it repairs to the borders of ditches, the banks of rivers and streams, and places contiguous to hedges.

It seldom forms its hole more than five or six inches under the surface. In the act of doing this, it scrapes the earth before it on one side, till the quantity becomes too great for it to labour onwards with ease : then works towards the surface ; and by pushing with its head, and the assistance of its nervous paws, gradually raises the mould which incommodates it,—and thus produces those small hills so common in our fields. After getting rid of the earth in this manner it proceeds forwards, and continues its labour as before ; and a person may easily discover how many Moles are contained in a certain space of ground, by counting the new-raised Mole-hill, which have no communication with each other.

Moles, like the Beavers and some other quadrupeds, live in pairs ; and so lively and reciprocal an attachment subsists between them, that they seem to disrelish all other society. In their dark abodes they enjoy the placid habits of repose and of solitude ; they also have the art of securing themselves from injury, of almost instantaneously making an asylum or habitation, and of obtaining a plentiful subsistence without the necessity of going abroad. They shut up the entrance to their retreats ; and seldom leave them, unless compelled by the admission of water, or when their mansions are demolished.

The Mole is chiefly found in grounds where the soil is loose and soft, and affording the greatest quantity of Worms and insects. During the summer, these animals run in search of food, in the night, among the grass ; and thus frequently become the prey of Owls. They exhibit a considerable degree of art in skinning the worms, which they always do before they eat them ; stripping the skin from end to end, and squeezing out all the contents of the body.

The verdant circles in the meadows and pastures, called by country people *fairy-rings*, are supposed to be owing to the operations of the Moles ; who, at certain seasons, perform their burrowing by circumgyrations ; and this, loosening the soil, gives to the surface directly over these tracks greater fertility and rankness of grass than is seen in other parts*.

When Moles are first taken, either by digging or

* Penn. Brit. Zool. i. 131, 132.

otherwise, they utter a shrill scream, and prepare for their defence by exerting the strength of their claws and teeth. They are said to be very ferocious animals; and however contented they may be together underground, yet when above they will sometimes tear and eat one another. In a glass case, in which a Mole, a Toad, and a Viper were inclosed, the Mole has been known to dispatch the other two, and to devour a great part of each.

The skin of the Mole is exceedingly tough; the fur is close-set, and softer than the finest velvet, or, perhaps than the fur of any other animal.—This is usually black: but Moles have been found spotted with white;—and sometimes, though only rarely, altogether white.—This animal is said to be entirely unknown in Ireland.

Linnæus says that the Mole passes the winter in a state of torpidity. In this assertion, however, he is directly contradicted by the Comte de Buffon; according to whom it sleeps so little in the winter, that it raises the earth in the same manner as during the summer.

The following is a very remarkable instance, related by Arthur Bruce, Esq. in the Transactions of the Linnean Society, of the exertions which the Mole make towards crossing even broad waters. “On visiting (says this gentleman) the Loch of Clanie, which I often did, I observed in it a small island at the distance of one hundred and eighty yards from the nearest land, measured to be so upon the ice. Upon the island, Lord Airly, the proprietor, has a castle and a small shrubbery. I remarked

frequently the appearance of fresh Mole-casts or hills. I for some time took them for those of the Water-mouse ; and one day asked the gardener if it was so. No, he said, it was the Mole ; and that he had caught one or two lately. Five or six years ago he caught two in traps ; and for two years after this he had observed none. But about four years ago, coming ashore one summer's evening in the dusk, he and another person (Lord Airly's butler) saw, at a short distance, upon the smooth water, some animal paddling to, and not far from, the island. They soon closed with this feeble passenger : and found it to be our Common Mole ; led by a most astonishing instinct, from the nearest point of land (the Castle-hill), to take possession of this desert island.—It had been, at the time of my visit, for the space of two years quite free from any subterraneous inhabitant ; but the Mole has, for more than a year past, made its appearance again, and its operations I have since been witness to."—The depth of water in this lake is seldom less, either in summer or winter, than six feet in the shallowest and from thirty to forty in the deepest parts.

People in general are not aware of the great mischief occasioned in fields and gardens by these animals. We are, however, informed by M. de Buffon, that in the year 1740 he planted about sixteen acres of land with acorns, the greater part of which was in a very short time carried away by the Moles to their subterraneous retreats. In many of these were found half a bushel, and in some even a bushel. Buffon, after this circumstance, caused a great number of

iron traps to be constructed ; by which, in less than three weeks, he caught 1300 Moles.—To this instance of devastation we may add the following : In the year 1742 they were so numerous in some parts of Holland, that one farmer alone caught between five and six thousand of them. The destruction occasioned by these animals is, however, no new phenomenon. We are informed that the inhabitants of the island of Tenedos, the Trojans, and the Æolians, were infested by them in the earliest ages ; and for this reason a temple was erected to Apollo Sminthus, the Destroyer of Moles.

I shall conclude this article with Dr. Darwin's description of the habitations of Moles ; and an account of the methods in which they are to be taken. —“ The Moles (says this writer) have cities underground ; which consist of houses, or nests, where they breed and nurse their young. Communicating with these are wider and more frequented streets, made by the perpetual journeys of the male and female parents : as well as many other less frequented alleys or by-roads, with many diverging branches, which they daily extend to collect food for themselves or their progeny.

“ This animal is most active in the vernal months, during the time of its courtship ; and many more burrows are at this time made in the earth for their meeting with each other. And though they are commonly esteemed to be blind, yet they appear to have some perception of light, even in their subterraneous habitations ; because they begin their work as soon as it is light, and consequently before the

warmth of the sun can be supposed to affect them. —Hence one method of destroying them consists in attending to them early, before sunrise ; at that time the earth or the grass may frequently be seen to move over them ; and with a small light spade their retreat may be cut off by striking it into the ground behind them. and they may be immediately dug up *.”

If a fresh Mole-hill, says another writer, is found by itself, that appears to have no communication with any other, (which is always the case when the Mole has worked from the surface downwards, as it frequently does in endeavouring to procure a more convenient habitation ;) after the hill has been turned up by a spade, a bucket of water should be poured over the mouth of the passage. By these means the animal, which is at no great distance, will be obliged to come forth, and may be easily caught with the hand.—It is very easy to discover whether a hill has any communication with another ; by applying the ear to it, and then coughing or making a loud noise : if it has no communication, the terrified animal may be heard by its motion. It will then be almost impossible for it to escape ; and water may either be poured into the hole, or the earth may be turned up with a spade till the Mole is found, for it does not often go deeper into the earth than from fifteen to eighteen inches.

In the moist beds of a garden, (which it is very fond of,) the Mole makes a passage at the depth of scarcely an inch below the surface. In this case it

* Darwin's *Phytologia*, 370.

is easily caught. When seen at work here, it is only necessary to tread behind the animal with the foot, on the passage, to prevent its retreat, and then turn it up with a spade.

“The Mole (continues Dr. Darwin, whose account I resume) suckles four or five, and sometimes six young ones; which are placed considerably deeper in the ground than the common runs; and the Mole-hills near them are consequently larger, and generally of a different colour. These nests are to be dug up; having first intercepted the road between them and the Mole-hills in the vicinity, to cut off the retreat of the inhabitants.

“The next important circumstance is, to discover which are the frequented streets, and which the bye-roads; for the purpose of setting subterraneous traps. This is effected by making a mark on every new Mole-hill, by a light pressure of the foot; and the next morning, observing whether a Mole has again passed that way, and obliterated the foot-mark. This is to be done for two or three successive mornings. These foot-marks should not be deeply impressed; lest the animal be alarmed on his return, and thus induced to form a new branch of road rather than open the obstructed one.

“The traps are then to be set in the frequented streets, so as to fit nicely the divided canal. They consist of a hollow semi-cylinder of wood; with grooved rings at each end, in which are placed nooses of horsehair, fastened loosely by a peg in the centre, and stretched above ground by a bent stick. When the Mole has passed half-way through one of

the nooses and removes the central peg in his progression, the bent stick rises by its elasticity, and strangles him *."

THE HEDGEHOG TRIBE.

THE Hedgehogs have two front teeth, both above and below ; of which those in the upper jaw are distant, and those of the lower are placed near together. On each side there are canine teeth ; in the upper jaw five, and in the lower three. There are also four grinders on each side, both above and below ; and the body is covered on the upper parts with spines †. The tail and feet are very short ; and the snout is somewhat cartilaginous.

There are *seven* species ; none of which are carnivorous. Of these only one is found in Europe, and this is common in several parts of England.

THE COMMON HEDGEHOG †.

These animals are natives of most of the temperate parts of Europe and Asia. They are generally about ten inches long, and of a greyish brown colour.—Their usual residence is in small thickets ; and they feed on fallen fruits, roots, and insects ;

* Darwin's *Phytologia*, 371, 372.

† Linn. *Gmel.* i. 115.

† SYNONYMS.—*Eriaceus Europæus*, Linn.—Common Hedgehog. Common Urchin. Penn.—Hérisson. Buffon.—Shaw's *Gen. Zool.* pl. 121.—Bew. *Quadr.* 448.

they are also very fond of flesh-meat, either raw or roasted. They chiefly wander about by night, and during the day lie concealed in their holes.

Naturalists have alleged that they enter gardens ; where they mount trees, and descend with pears, apples, or plums, stuck upon their bristles. This however is a mistake : for, if kept in a garden, they never attempt to climb trees ; nor even to stick fallen fruit upon their bristles, but lay hold of their food with the mouth.—They also are undeservedly reproached with sucking cattle and injuring their udders ; for the smallness of their mouths renders this altogether impossible.

Mr. White says, that the manner in which the Hedgehogs eat the roots of the plantain in his grass-walks is very curious. With their upper jaw, which is much longer than the lower, they bore under the plant ; and gnaw the root off upwards, leaving the tuft of leaves untouched. In this respect they are serviceable, as they destroy a very troublesome weed ; but they in some measure deface the walks, by digging in them small round holes.

The Hedgehog has a very uncommon method of defending itself from the attacks of other animals. Being possessed of very little strength or agility, he neither attempts to fly from, nor to assail his enemies ; but erects his bristles, and rolls himself up like a ball, exposing no part of his body that is not covered with these sharp weapons. He will not unfold himself unless thrown into water ; and the more he is frightened or harassed, the closer he shuts himself up. While in this state, most Dogs, instead of biting

him, stand off and bark, not daring to seize him; and, if they attempt it once, their mouths are so pricked with his bristles, that it is with difficulty they can be prevailed upon to do it a second time. He is easily taken; for he neither attempts to fly, nor to defend himself by any other means than this.

The Hedgehog may be rendered in a considerable degree domestic; and it has been frequently introduced into houses for the purpose of expelling those troublesome insects the *Blattæ*, or Cock-roaches, which it pursues with avidity, and on which it is fond of feeding. By the Calmuc Tartars these animals are kept in their huts instead of Cats.—There was a Hedgehog in the year 1799, in the possession of a Mr. Sample, of the Angel-inn at Felton in Northumberland, which performed the duty of a turn-spit, as well in every respect as the Dog of that denomination. It ran about the house as familiarly as any other domestic quadruped, and displayed an obedience till then unknown in this species of animals. It used to answer to the name of Tom.

In the winter the Hedgehog wraps itself up in a warm nest of moss, dried grass, and leaves; and sleeps out the rigours of that season. It is frequently found so completely encircled with herbage, that it resembles a ball of dried leaves; but when taken out, and placed before a fire, it soon recovers from its state of torpidity.—It produces four or five young ones at a birth; which are soon covered with prickles, like those of the parent animal, but shorter and weaker. The nest formed for these is large, and is composed principally of moss.

The Hedgehog is occasionally an article of food and is even said to be very delicate eating. The skin was used by the ancients for the purpose of a clothes-brush.

This animal differs very materially from the Porcupine, (which at first sight it seems much to resemble,) both in the structure of its teeth, and in the shortness of its spines or quills.

THE PORCUPINES *.

TO a superficial observer, the animals belonging to this tribe would seem entitled to a place with the Hedgehogs; but they have no farther similitude than in the spiny covering of their bodies. None of the species are supposed to be carnivorous.

The Porcupines have two front-teeth, cut obliquely, both in the upper and under jaw; and eight grinders. They have four toes on the fore, and five on the hinder feet; and the body is covered with spines, intermixed with hair †.

THE COMMON PORCUPINE †.

The general length of the Common Porcupine, is about two feet and a half from the head to the end of the tail. The upper parts of the body are covered with hard and sharp spines, some of which

* The Linnæan Order GLIRES commences with the Porcupines. In this order the animals are furnished with two remarkably large and long front teeth both above and below; but have no canine-teeth. Their feet have claws, and are formed both for bounding and running. They feed on vegetables.—The genera are the Porcupine, Cay, Beaver, Rat, Marmot, Squirrel, Dormouse, Jerboa, Hare, and Hyrax.

† Linn. Gmel. i. 118.

‡ SYNONYMS.—*Hystrix Cristata*. Linn.—Crested Porcupine. *Pennant*.—*Porc-epic*. Buffon.—*Shaw's Gen. Zool.* pl. 122.—*Bew. Quad.* 141.

measure from nine to fifteen inches in length. These are variegated with alternate black and white rings; and as some of them are attached to the skin only by a delicate pedicle, they easily fall off. They are formed of complete quills, wanting only the vane to be real feathers. The animal has the power of elevating or depressing them at will; and when he walks, they (particularly those about the tail) make a rattling noise, by striking against each other*. The head, belly, and legs, are covered with strong dusky bristles, intermixed with softer hairs: on the top of the head, these are very long; and curved backwards, somewhat like a ruff or crest.

This animal is a native of Africa, India, and the Indian Islands: and is said sometimes to be found even in Italy and Sicily. It inhabits subterraneous retreats: which it is said to form into several compartments; leaving two holes, one for an entrance, and the other, in case of necessity, to retreat by. It sleeps during the day time and makes its excursions for food (which consists principally of fruits, roots, and vegetables) in the night. Although able to support hunger for a great length of time, and apparently without inconvenience, it always eats with a voracious appetite. In the gardens near the Cape of Good Hope, these creatures do much damage. When they have once made a path through a fence, they always enter by the same so long as it continues open; and this gives the inhabitants an opportunity of destroying them. When a breach is discovered,

* Buff. Quad. vii. 75.

they place a loaded gun in such a manner that the muzzle will be near the animal's breast when he is devouring a carrot or turnip, that is connected by a string with the trigger *.—The teeth are very sharp and strong. M. Bosman, when on the coast of Guinea, put a Porcupine into a strong tub, in order to secure him; but, in the course of one night, he ate his way through the staves, even in a place where they were considerably bent outwards, and escaped †.

In its manners, the Common Porcupine is very harmless and inoffensive, never itself becoming the aggressor; and, when pursued, it climbs the first tree it can reach, where it remains till the patience of its adversary is exhausted. If, however, it is roused to self-defence, even the Lion dares not venture to attack it ‡.

The late Sir Ashton Lever had a live Porcupine; which he frequently turned out on the grass behind his house, to play with a tame Hunting Leopard, and a large Newfoundland Dog. As soon as they were let loose, the Leopard and Dog began to pursue the Porcupine, who always at first endeavoured to escape by flight: but, on finding that ineffectual, he would thrust his head into some corner, making a snorting noise, and erecting his spines; with which his pursuers pricked their noses, till they quarrelled between themselves, and thus gave him an opportunity to escape §.

It has been asserted by many credulous travellers,

* Kolben ii. 119.

† Bosman, 237.

‡ Church.—Kolben.

§ Church.

that the Porcupines, when much provoked, dart their quills at the object by which they are enraged. This opinion, however, has been fully refuted by many accurate naturalists, who have taken pains to inquire into the matter. The usual method of defence adopted by these animals, is to recline themselves on one side; and, on the approach of their enemy, to rise up quickly, and gore him with the erected prickles of their other side. It is also said, that when the Porcupine meets with serpents, against whom he carries on a perpetual war, he closes himself up like a ball, concealing his head and feet, and then rolls upon and kills them with his bristles, without running any risk of being wounded himself*.—M. Le Vaillant says, that, owing to some pernicious quality in the quills, one of his Hottentots, who had received a wound in the leg from a Porcupine, was ill for more than six months. He also informs us, that a Gentleman, at the Cape, in teasing one of these animals, received a wound in the leg, which nearly occasioned his loss of the limb; and notwithstanding every possible care, he suffered severely from it for above four months, during one of which he was confined to his bed†.

When the animal is moulting, or casting its quills, it sometimes shakes them off with so much force, that they will fly to the distance of a few yards, and even bend their points against any hard substance they happen to strike.—It may have been this circumstance which gave rise to the report of its

* Shaw, ii.

† Vaillant's Travels, i. 321.

darting its quills against an enemy.—Claudian is the most ancient writer that has been cited for that strange opinion. The following is a translation of his lines :

Arm'd at all points, in Nature's guardian mail,
See the stout Porcupine his foes assail ;
And, urg'd to fight, the ready weapons throw,
Himself at once the quiver, dart, and bow.

The female goes with young about seven months; and produces one or two at a birth, which she suckles about a month. These she defends with the utmost resolution against all assailants, and will rather be killed than suffer herself to be deprived of them.—If taken early, it is said, Porcupines may be easily tamed.

In their stomachs, Bezoar-stones are frequently found. These are composed of a very fine hair, which has concreted with the juices of the stomach: they have one layer over another, so that they consist of several rings of different colours. Professor Thunberg says, he has seen them as large as a Hen's egg, and that they are generally blunt at one end; but one that he saw was as big as a Goose's egg, was of a brown colour, and perfectly globular*.

The quills of the Porcupine are used by the Indians, to adorn many curious articles that they make; the neatness and elegance of which would not disgrace more enlightened artists. They dye them of various beautiful colours, cut them into

* Thunberg, iv. 223.

slips, and embroider with them their baskets, belts, &c. in a great variety of ornamental figures*.—The flesh is said to be excellent eating, and is frequently introduced at the politest tables at the Cape†. According to Kolben, it is better when hanged a day or two in the chimney.

THE CAVY TRIBE.

THESE animals were arranged by Linnæus along with the *mice*; but that tribe having been thought much too extensive, and comprehending many animals that differed very materially both in form and habit, it was at length thought necessary to arrange the Cavies under a separate head; distinguishing them by the structure of their feet, the proportion of their limbs, &c. the teeth being nearly the same in all.—They have in each jaw two wedge-shaped front-teeth, and eight grinders. They have likewise four or five toes on the fore feet, and from three to five on the hinder. The tail is either very short, or altogether wanting. And they have no collar bones‡.

They seem to hold a middle place between the murine quadrupeds and the Hares. Nearly all the species, which are *seven* in number, have a slow, and some of them a leaping pace. Their habitations are burrows; which they form beneath the roots of trees, or in the ground. They live entirely on vegetable food, and are all natives of America:

* Church.

† Vaillant, i. 321.

‡ Linn. Gmel. i. 120.

two or three of the species, however, are found also on the Old Continent.

THE GUINEA PIG *.

Few foreign quadrupeds are more generally known by us than this. It is a native of Brazil. In a state of domestication (for its habits and manners as a wild animal are mentioned in none of the accounts that I have been able to consult) it feeds on bread or grain, fruit, and other vegetable substances, but it gives a decided preference to parsley.—This little creature is easily rendered tame, and is very cleanly and harmless. In its disposition, it is timid : and it appears totally void of attachment, not only to its benefactors, but even to its own young ; which it will suffer to be taken away, and even devoured, without discovering the least concern, or attempting resistance.

When kept in a room, it seldom crosses the floor, but generally creeps round by the wall. Its motions are, in a great measure, similar to the Rabbet : it strokes its head with its fore feet, and sits on its hind legs, like that animal. The male usually compels the female to go before him, and follows exactly in her footsteps. They are fond of dark and intricate retreats, and seldom venture out when danger is near. When about to quit their hiding places, they spring

* SYNONYMS.—Cavi Cobaya. *Linn. Gmel.*—Mus Porcellus. *Linn. Syst. Nat. Ed. xii.*—Cochon d'Inde. *Buffon.*—Restless Cavy. *Penn.*—Guinea Pig. *Edwards.*—*Shaw's Gen. Zool. pl. 126.*—*Brew. Zool.* 345.

forward to the entrance ; stop to listen and look round ; and if the road is clear, they sally forth in search of food ; but on the least alarm they run instantly back again.

In their habits, they are so exceedingly clean, that if the young, by any accident, are dirtied, the female takes such a dislike to them, as never again to suffer them to approach her. They may frequently be observed in the act of smoothing and dressing their fur, somewhat in the manner of a Cat. The principal employments of the male and female, seem to consist in smoothing each other's hair : after this office has been mutually performed, they turn their attention to the young, whose hair they take particular care to keep unruffled and even ; and they bite them, whenever they are in the least refractory.

They repose flat on their belly ; but, like the Dog, turn several times round before they lie down. They sleep with their eyes half-open, and are very watchful. It is observed, that the male and female seldom sleep at the same time, but seem alternately to watch each other. They are exceedingly delicate, and impatient of cold or moisture. Their usual voice is a kind of grunting, like a young Pig ; but their notes of pain are shrill and piercing.

Their manner of fighting is very singular, and seems extremely ridiculous. One of them seizes the neck of its antagonist with its teeth, and attempts to tear the hair from it. In the mean time, the other turns his posteriors to his enemy, kicks up behind like a horse, and, by way of retaliation, scratches the sides of his opponent with his hinder

claws, in such a manner that both are frequently covered with blood *.

The female goes with young about five weeks, and breeds pretty nearly every two months. Though furnished with only two teats, she usually produces three or four, and sometimes so many as twelve, at a birth. And as the young have been known to breed when only two months old, the produce of a single pair may amount to upwards of a *thousand* in the year.—In the space of twelve hours after their birth, the young ones are able to run about with as much agility as their parents.

THE BEAVER TRIBE.

OF the present tribe, there are but *two* species that have been hitherto discovered, the Common and the Chili Beavers; and even of these, it seems doubtful whether the latter ought not to be arranged with the Otters.

The Beavers have the front teeth in their upper-jaw truncated, and excavated with a transverse angle; and those of the lower jaw are transverse at the tips. There are four grinders on each side. The tail is long, depressed, and scaly; and there are collar bones in the skeleton †.

* Church's Cabinet of Quadrupeds.

† Linn. Gmel. i. 124.

THE COMMON BEAVER*.

The Beaver is a native of most of the northern parts of Europe and Asia, but is principally found in North America. There is some reason to suppose that it was once an inhabitant of Great Britain: for Giraldus Cambrensis says that these animals frequented the river Tievi in Cardiganshire, and that they had, from the Welsh, a name, signifying “the Broad-tailed animals.” Their skins were valued by the laws of Howel Dda, in the tenth century, at the great sum of a hundred and twenty pence each; and they seem to have constituted the chief finery and luxury of those days.

The general length of the Beaver is about three feet. The tail is oval, nearly a foot long, and compressed horizontally, but rising into a convexity on its upper surface: it is perfectly destitute of hair, except at the base, and is marked out into scaly divisions, like the skin of a fish. The hair is very fine, smooth, glossy, and of chesnut colour, varying sometimes to black; and instances have occurred, in which these animals have been found white, cream-coloured, or spotted. The ears are short, and almost hidden in the fur.

No other quadrupeds seem to possess so great a degree of natural sagacity as the Beavers. Yet when

* SYNONYMS.—Castor Fiber. *Linn.*—Fiber. *Belon.*—Castor Beaver. *Penn.*—Castor. *Buffon.*—*Shaw's Gen. Zool.* pl. 128.—*Ber. Zool.* 383.

we consider that their history, as hitherto given to mankind, has been principally taken from the reports of the Beaver-hunters—whose object it is, not to study the nature or manners of the animals, but merely to seize them as articles of commerce; and whose accounts are often in themselves contradictory—it is necessary that we should not give implicit faith to every thing that has been written even by the most respectable authors concerning them, where these authors have not themselves witnessed the facts they relate.—Captain George Cartwright, who resided above fourteen years on the coast of Labrador, in order to collect the different furs of that dreary climate, saw more of the manners of the Beaver, than nearly all other writers whatever. To his work, therefore, and to that of M. Du Pratz, who in Louisiana was an eye-witness to their labours, I have principally had recourse, in endeavouring to give to the reader as faithful an account as possible of these wonderful animals.

“The front teeth of the Beavers,” says Capt. Cartwright, “are very strong, and well adapted to the purpose of gnawing wood. They feed on leaves and the bark of trees; and when they eat, they sit upright, and carry the food to their mouth, in the same manner as the Squirrel tribe. The French naturalist, singularly enough, asserts, that “the Beaver has a scaly tail, *because he eats fish*.” Mr. Cartwright pleasantly observes, “I wonder M. de Buffon has not one himself, for the same reason; for I am sure he has eaten a great deal more fish than all the Beavers in the world put together.” The

fact seems to be, that Beavers subsist wholly on vegetable substances, and that they will eat no animal food whatever *.

The Beavers generally live in associated communities, of two or three hundred; inhabiting dwellings which they raise to the height of six or eight feet above the water. They select, if possible, a large pond; in which they raise their houses on piles, forming them either of a circular or oval shape, with arched tops, thus giving them, on the outside, the appearance of a dome, while they within somewhat resemble an oven. The number of houses is, in general, from ten to thirty. If the animals cannot find a pond to their liking, they fix on some flat piece of ground, with a stream running through it. In making this a suitable place for their habitations, a degree of sagacity and intelligence, of intention and memory, is exhibited, approaching in an extraordinary degree to the faculties of the human race.

The first object is, to form a dam. To do this, it is necessary that they should stop the stream, and of course that they should know in which direction it runs. This seems a very wonderful exertion of intellect; for they always do it in the most favourable place for their purpose, and never begin at a wrong part. They drive stakes, five or six feet long, into the ground, in different rows, and interweave them

* The faculty of medicine at Paris juridically declared the Beaver to be a fish; and as such it was, in consequence, declared lawful to be eaten on *maigre* days. Charlevoix says, it has been placed in the same class with *Mackrel*. Vol. i. 154.

with branches of trees ; filling them up with clay, stones, and sand ; which they ram so firmly down, that though the dams are frequently a hundred feet long, Capt. Cartwright says, he has walked over them with the greatest safety. These are ten or twelve feet thick at the base ; gradually diminishing towards the top, which is seldom more than two or three feet across. They are exactly level from end to end ; perpendicular towards the stream ; and sloped on the outside, where grass soon grows, and renders the earth more united.

The houses are constructed with the utmost ingenuity ; of earth, stones, and sticks, cemented together, and plastered in the inside with surprising neatness. The walls are about two feet thick ; and the floors so much higher than the surface of the water, as always to prevent them from being flooded. Some of the houses have only one floor ; others have three *. The number of Beavers in each house is from two to thirty. These sleep on the floor, which is strewn with leaves and moss ; and each individual is said to have its own place. When they form a new settlement, they begin to build their houses in the summer ; and it costs them a whole season to finish the work, and lay in their winter provisions,—consisting principally of bark and the tender branches of trees, cut into certain lengths, and piled in heaps under the water †.

* Du Pratz says, that in one he examined, he found no fewer than fifteen different cells.

† The Indians observe the quantity that the Beavers lay up ; as a guide in judging what will be the mildness or severity of the approaching season.

The houses have each no more than one opening * ; which is under the water, and always below the thickness of the ice. By this means they are secured from the effects of frost.

The Beavers seldom quit their residence unless they are disturbed, or their provisions fail. When they have continued in the same place three or four years, they frequently erect a new house annually ; but sometimes merely repair their old one. It often happens that they build a new house so close to the old, that they cut a communication from one to the other ; and this may have given rise to the idea of their having several apartments. When their houses are completely finished, they still carry on fresh works : nor do they desist even when the pond is frozen over ; but continue their employment for some nights after, (if the frost is not too severe,) through a hole in the ice, which they keep open for the purpose.

During the summer, they forsake their houses, and ramble about from place to place ; sleeping under the covert of bushes, near the water-side. On the least noise, they betake themselves into the water for security : and they have sentinels, who, by a certain cry, give notice of the approach of danger. In the winter they never stir out, except to their magazines under the water ; and during that season, they become excessively fat.

In one of his excursions into the Northern parts of Louisiana, M. Du Pratz gives us an account of

* Cartwright.

a colony of Beavers, to many of whose operations he was himself a witness. This is in some respects contradictory to that of Captain Cartwright ; I have therefore no alternative but to give the sense of the writer, and leave the matter undecided *.

At the head of one of the rivers of Louisiana, in a very retired place, M. Du Pratz found a Beaver dam. Not far from it, but hidden from the sight of the animals, he and his companions erected their hut, in order to watch the operations at leisure. They waited till the moon shone pretty bright ; and then, carrying branches of trees in their front to conceal themselves, they went with great care and silence to the dam. Du Pratz ordered one of the men to cut, as silently as possible, a gutter, about a foot wide, through it ; and retire immediately to the hiding place.

“ As soon as the water through the gutter began to make a noise, (says our writer,) we heard a Beaver come from one of the huts and plunge in. We saw him get upon the bank, and clearly perceived that he examined it. He then, with all his force, gave four distinct blows with his tail ; when immediately the whole colony threw themselves into the water, and arrived upon the dam. When they were all assembled, one of them appeared, by muttering, to issue some kind of orders ; for they all in-

* Du Pratz was settled sixteen years as a planter in Louisiana, and therefore must have had sufficient means of ascertaining the manners of these animals.

stantly left the place, and went out on the banks of the pond in different directions. Those nearest to us were between our station and the dam, and therefore we could observe their operations very plainly. Some of them formed a substance resembling a kind of mortar ; others carried this on their tails, which served as sledges for the purpose. I observed that they put themselves two and two, and that each of a couple loaded his fellow. They trailed the mortar, which was pretty stiff, quite to the dam, where others were stationed to take it ; these put it into the gutter, and rammed it down with blows of their tails.

“ The noise of the water soon ceased, and the breach was completely repaired. One of the Beavers then struck two blows with his tail ; and instantly they all took to the water without any noise, and disappeared.”

M. Du Pratz and his companions afterwards retired to their hut to rest, and did not again disturb these industrious animals till the next day. In the morning, however, they went together to the dam, to see its construction ; for which purpose it was necessary that they should cut part of it down. The depression of the water in consequence of this, together with the noise they made, roused the Beavers again. The animals seemed much disturbed by these exertions ; and one of them in particular was observed several times to come pretty near the labourers, as if to examine what passed.—As M. Du Pratz apprehended that they might run into the woods, if

farther disturbed, he advised his companions again to conceal themselves.

“ One of the Beavers then ventured (continues our observer) to go upon the breach, after having several times approached and returned like a spy. He surveyed the place ; and then struck four blows, as he did the preceding evening, with his tail. One of those that were going to work, passed close by me ; and as I wanted a specimen to examine, I shot him. The noise of the gun made them all scamper off with greater speed than a hundred blows of the tail of their overseer could have done.”—By firing at them several times afterwards, they were compelled to run with precipitation into the woods. M. Du Pratz then examined their habitations.

Under one of the houses he found fifteen pieces of wood ; with the bark in part gnawed off, apparently intended for food. And round the middle of this house, which formed a passage for them to go in and out at, he found no less than fifteen different cells.—These habitations were made by posts fixed, slanting upwards to a point ; and in the middle was the floor, resting firmly on notches in the posts *.

Notwithstanding all the sagacity and the extensive reasoning faculties of mankind, how often do we see their best-formed plans, their most dear and favorite contrivances fail, through some unlooked for event ! We cannot then surely be surprised, when we are told, (as we are by one writer. in order

* Du Pratz, 142—147.

to lessen our opinion of the sagacity of these animals), that a community of Beavers has in one or two instances been starved to death, in consequence of a failure of provisions, or some want of foresight in fixing upon a spot that was found not to contain sufficient food to support them : or that they have sometimes established their colony in a flat situation, where a sudden thaw has swelled the water to such a height as to flood the whole place, wash away their food, and thus destroy them. To suppose them capable of judging of probabilities to so great an extent, would be to rank them in intellect with Man. We must rather be astonished at the operations that we see them perform, than seek for them any higher situation than that in which they are placed.

Beavers bring forth their young towards the end of June ; and generally have two at a time, which are, in nine instances out of ten, a male and a female. These continue with their parents till they are full three years old ; when they pair off, and form houses for themselves. If, however, they are undisturbed, and have plenty of provisions, they remain with the old ones, and thus form a double society *.

We cannot wonder that such sociable animals as the Beavers are, should also exhibit great attachment to each other. Two young ones that were taken alive, and brought to a neighbouring factory in Hudson's Bay, were preserved for some time, and thrived very fast, till one of them was killed by an accident. The survivor instantly felt the loss, and

* Church.

starved itself to death by voluntarily abstaining from food *.

Instances have occurred of Beavers having been perfectly domesticated. Major Roderfort, of New York, related to Professor Kalm, that he had a tame Beaver above half a year in his house, where he went about, quite loose, like a Dog. The Major gave him bread ; and sometimes *fish*, of which he was very greedy †. As much water was put into a bowl as he wanted. All the rags and soft things he could meet with he dragged into the corner where he was accustomed to sleep, and made a bed of them. The Cat in the house, having kittens, took possession of his bed ; and he did not attempt to prevent her. When the Cat went out, the Beaver often took the Kitten between his fore paws, and held it to his breast to warm it, and seemed to doat upon it ; as soon as the Cat returned, he always restored to her the Kitten. Sometimes he grumbled ; but never attempted to bite ‡.

The skin of the Beaver has hair of two kinds : the lower, immediately next to the hide, is short, implicated together, and as fine as down ; the upper hair grows more sparingly, and is both thicker and longer. The former is of little value ; but the flax or down is wrought into hats, stockings, caps, and other articles of dress :

* Penn. Arct. Zool. i. 104.

† This is contrary to the assertion of Capt. Cartwright, who says that they live only on vegetables.

‡ Kalm, ii. 60.

The Beaver's flix

Gives kindest warmth to weak enervate limbs,
When the pale blood slow rises through the veins.

The hunters prefer the winter season for seeking out the habitations of the Beavers. They stop up the entrance to these, on the side next the water, with stakes; and enlarge the vent-hole, which they find on the land side: this is done for the purpose of putting through it a Dog, who is so trained that he holds the Beaver with his teeth, and suffers himself to be drawn out by the hind-legs *. The Indians about Hudson's Bay first drain off the water of the dam. and then, covering the houses with nets, break in at the top; on which the affrighted Beavers running through the door to escape, become entangled in the meshes. The hunters immediately seize and skin them †.

In some parts of Lapland, Beavers are caught in traps made of the twigs of fir-trees. The top of these the hunters fasten with a small branch of poplar, of which the animals are very fond. The Beaver gnaws away this fastening, is let down, and caught. But it is remarked, that wherever two have been together, the one has always set the other at liberty ‡.

Beavers' skins form a very considerable article of commerce, both with the northern countries of Europe and with America. Above fifty-four thousand

* Tooke. This account too differs from that of Capt. Cartwright; who says they have only one hole for entrance, and that is from the water.

† Ellis, 161.

‡ Scheffer, 236.

have been sold by the Hudson's Bay Company at one sale : and in the year 1798, a hundred and six thousand skins were collected in Canada and sent into Europe and China *. Those of a black colour are preferred ; and such as are taken during winter ; especially if they have been worn for some time by the Indians, by which the long hairs fall off, leaving the fine downy fur perfectly free, and better fitted for every purpose of manufacture †. A good skin will weigh about two pounds.

The medicinal substance called *castor*, is produced in the inguinal glands of these animals ; and each individual, both male and female, has usually about two ounces. That produced by the Russian Beavers is more valuable, and sells at a much higher price, than what is imported from America ‡.—The flesh is good eating. It is usually preserved (the bones being first taken out) by drying it in the smoke.

It frequently happens that single Beavers live by themselves in holes, which they make in the banks of rivers, considerably under the surface of the water, working their way upward to the height of many feet. These are called by the hunters *Hermits*, or *Terriers*. Like the rest, they lay up a store of provisions for the winter. It is supposed by Capt. Cartwright, that their separation from society originates in attachment and fidelity ; that, having,

* Mackenzie's Travels, p. xxv.

† These skins are called *green Beavers* : the others *dry Beavers*.

‡ Kerr, i. 224.

by some accident lost their mate, they will not readily pair again. Whatever may be the causes, it has been remarked, that they have invariably a black mark on the skin of their backs ; which is called a saddle, and by which they are easily distinguished from the others.

Their motions on land are very slow ; and, being timid animals, they are easily killed, though possessing teeth so sharp and strong as to enable them to make a stout resistance. If they happen to be met on a shore by a Man, they sit down, and cry like a child *.

THE RAT TRIBE.

THIS tribe contains all those animals which go under the denomination of Murine Quadrupeds ; and, although the term Rat has been adopted, it includes not only the species that we know by the peculiar name of Rats, but also the Mice, and others called Beaver-rats.

These animals, in general, live in holes in the ground ; and are very swift, and able to climb trees. Their food is chiefly vegetable ; which most of them seek in the night, keeping in their retreats during the day. They feed in a somewhat upright position, carrying the food to their mouth in their fore-paws. They are very prolific.

The front-teeth are wedge-shaped. There are generally three grinders on each side, but sometimes only two. All the species have clavicles, or collar-bones, in the skeleton *.

THE MUSK RAT †.

This animal is about the size of a small Rabbit. —Its head is thick and short, and somewhat resembles that of the Water-rat. The eyes are large; the ears short, rounded, and covered both inside and outside with hair. Its fur is soft, glossy, and of a reddish-brown colour; and beneath this is a much finer fur, or thick down, which is very useful in the manufacture of hats. The tail is flattened laterally, and covered with scales.

Musk-rats are found in America, from Hudson's Bay as far south as Carolina.—In the general form of their body, as well as in many of their habits, they bear a considerable resemblance to the Beaver. They construct their habitation of dry plants, but particularly of reeds, cement it with clay, and cover it with a dome. At the bottom and sides of this there are several pipes, through which they pass in search of food; for they lay up no provisions for winter. They have also subterraneous passages, in-

* Linn. Gmel. i. 125.

† SYNONYMS.—*Mus Zibethicus*. Linn. Gmel.—*Castor Zibethicus*. Linn. Ed. xii.—*Ondatra*, or Canadian Musk-rat. Sm. Buff.—Musk-beaver. Penn.—*Musquash*. Kerr.—Musk-rat. La Hontan.—Shaw's Gen. Zool. pl. 129.—Bew. Quad. 381.

to which they retreat whenever their houses are attacked.

Their habitations, which are intended only for the winter, are rebuilt annually. At the approach of this season they begin to construct them, as places of retirement from the inclemencies of the weather. Several families occupy the same dwelling, which is frequently covered many feet deep with snow and ice; the animals, notwithstanding, contrive to creep out, and feed on the roots that are also buried beneath. They feed too on the fresh-water muscles; and, when the season permits it, on fruit. Kalm, in his *American Travels*, says that apples are used as baits for them in traps. In winter, the male and female are seldom seen far from each other*.

During the summer they wander about, generally in pairs, feeding voraciously on herbs and roots. They walk and run in an awkward manner, like the Beaver; and cannot swim well, their feet being unfurnished with webs†.

The Musk-rats, as well as the Beavers, seem to have their Drones or Terriers, which are at no trouble in the common operation of building houses. These burrow like Water-rats, in banks adjacent to lakes, rivers, and ditches; and often do much damage by admitting the water through the embankments of meadows.

They are remarkable for a strong muksy smell: whence they have their specific name.—Their nests are formed of sticks, lined on the inside with some

* Penn. Arct. Zool. i. 107. † Shaw, ii.

soft materials ; and they bring forth from three to six young ones at a time. When taken young, they are easily tamed ; they are then very playful and inoffensive, and never bite.

The flesh is sometimes eaten ; and the fur is used in the manufacture of hats*.

THE BROWN RAT †.

The Brown and the Black Rat are both of them species much too well known in most countries where they are found at all. The former, however, which was first introduced among us from Norway, has greatly diminished the number of the others ; but has itself multiplied so excessively, and is so very strong and voracious, as to form no acceptable substitute.

In Ireland these Rats have very nearly destroyed even the whole race of Frogs ; which the inhabitants were somewhat anxious to preserve, in order to clear their fields of insects, and render their waters more healthful. While the Frogs continued in great numbers, the Rats also multiplied ; but since the latter are deprived of this considerable part of their subsistence, they also are become much less numerous ‡.

During summer, they reside chiefly in holes on

* Penn. Arct. Zool. i. 107. See also Charlevoix, Amer. i. 168.

† SYNONYMS.—*Mus decumanus*. Linn.—*Bandicote*. Purchas.—*Surmulot*. Buffon.—*Norway Rat*. *Brown Rat*. Penn.—*Shaw's Gen. Zool. pl.* 130.—*Betz. Quad.* 377.

‡ Goldsmith, iv. 63.

the banks of rivers, ditches, and ponds ; but on the approach of winter they come to the farm-houses, and enter the corn-ricks and barns, where they devour much of the corn, but damage infinitely more than they eat. They have haunts in the walls and about the floors of old houses, where they frequently destroy the furniture ; and they have even been known to gnaw the extremities of infants while asleep. They are also excessively destructive to eggs, poultry, pigeons, rabbits, and game of every description. They swim with ease, and even dive after fish.

Their produce is enormous ; as they bring from ten to twenty at a litter, and this thrice a-year. Thus, their astonishing increase is such, that it is possible for the descendants of a single pair (supposing food to be sufficiently plentiful, and that they had no enemies to lessen their numbers) to amount at the end of about two years, to upwards of *a million*. But this baneful increase is counteracted, not only by numerous enemies among the other animals, but by their destroying and eating each other. A large and strong Rat is as much dreaded by its own species, as the whole species is dreaded by other creatures that are their prey. Thus has Providence kindly interfered in keeping them within due bounds.

Dogs and Cats destroy, but do not eat them. The Weasel is in perpetual enmity with them ; and will pursue them into their holes, and fight with them there. This little creature endeavours to fix itself on their bodies, and suck their blood ; which,

it very often effects. They are, however, so bold as to attack a small Dog, seize him by the mouth, and holding fast there, they make a wound very difficult to be healed on account of its depth and laceration.

In the Isle of France, Rats are found in such prodigious swarms, that it is said the place was entirely abandoned by the Dutch on account of their number. In some of the houses they are so numerous, that 30,000 have been known to be killed in a year. They make immense hoards under ground both of corn and fruit; and climb up the trees to devour the young birds. They pierce the very thickest rafters. At sun-set they may be seen running about in all directions; and in a single night they will frequently destroy a whole crop of corn. M. de Saint Pierre says, he has seen a field of maize, in which they had not left a single ear. They are supposed to have been originally brought to that island in some of the European vessels.

On the return of the Valiant man of war from the Havannah, in the year 1766, its Rats had increased to such a degree, that they destroyed a hundred-weight of biscuit daily. The ship was at length smoked between decks, in order to suffocate them: which had the desired effect; and six hampers were, for some time, filled every day, with the Rats that had thus been killed*.

The following anecdote of a whimsical mode of clearing a house of these troublesome animals, may

* St. Pierre's Voyage to the Isle of France, p. 76. and note.

be new to many of my readers:—A gentleman travelling through Mecklenburg about thirty years ago, was witness to a very singular circumstance in the post-house at New Hargard. After dinner, the landlord placed on the floor a large dish of soup, and gave a loud whistle. Immediately there came into the room a mastiff, a fine Angora Cat, an old Raven, and a remarkably large Rat with a bell about its neck. They all four went to the dish, and, without disturbing each other, fed together ; after which the Dog, Cat, and Rat, lay before the fire, while the Raven hopped about the room. The landlord, after accounting for the familiarity which existed among these animals, informed his guest that the Rat was the most useful of the four ; for the noise he made had completely freed the house from the Rats and Mice with which it was before infested.

Pontoppidan says, that a short time previous to a fire, all the Rats and Mice that are in a house will instinctively forsake it !

Some of the Japanese tame these Rats, and teach them to perform many entertaining tricks ; and, thus instructed, they are exhibited as a show for the diversion of the populace *.

In Egypt, as soon as the Nile, after having fertilized the land, leaves it free for cultivation, multitudes of Rats and Mice are seen to issue in succession from the moistened soil. The Egyptians hence believe that they are generated from the earth itself. Some of those people even assert, and main-

* Kaempfer, i. 126.

tain with the utmost effrontery, that they have seen the Rats in their formation, one half of the bodies flesh, and the other half mud *.

Rats swarm in Otaheite, where they feed on the fruits of the country; and they are there so bold, as even sometimes to attack the natives when asleep. The inhabitants hold them in abhorrence as unclean; and will even avoid killing them, lest they should be polluted by the touch †.

THE FIELD MOUSE †.

The Field Mouse is well known in all the temperate parts of Europe; where it frequents dry and elevated fields or woods. The general length of its body is about four inches and a half; and the tail is nearly four inches more. Its colour is yellowish brown above, and whitish on the under parts. The eyes are full and black.

These animals are found only in fields and gardens. They live in burrows, a foot or more under ground; where they lay up great quantities of acorns, nuts, and beech-mast. According to Buffon, a bushel of such substances has been sometimes found in a single hole. These habitations are often divided into two apartments; the one for living in with their young, and the other for their provisions.

* Sonnini, iii. 66.

† Penn. Quad. ii. 438.

‡ SYNONYMS.—*Mus Sylvaticus*. *Linn.*—Wood Mouse. *Shaw.*—Long-tailed Field Mouse. *Sm. Buff.*—Bean Mouse, in some parts of England.—*Milot. Buffon.*—Field Mouse. *Penn.*—*Shaw's Gen. Zool.* pl. 132.—*Bew. Quad.* 388.

Often the little Mouse

Illudes our hopes ; and, safely lodg'd, below
Hath form'd his granaries.

The nests of these little creatures may be discovered by the small heaps of mould thrown up at the entrance of their runs, which lead by winding paths to their magazine *.

A very remarkable instance of sagacity in this animal, occurred to the Rev. Mr. White one day, as his people were pulling off the lining of a hot-bed. in order to add some fresh dung. From out of the side of this bed, leaped something with great agility, that made a most grotesque figure, and was not without much difficulty taken ; when it proved to be a large Field Mouse with three or four young clinging to her teats by their mouths and feet. It was amazing that the desultory and rapid motions of the dam did not oblige her litter to quit their hold, especially when it appeared that they were so young as to be both naked and blind †.

Field Mice are very prolific ; breeding more than once a-year, and often producing litters of eight or ten at a time. They generally make the nest for their young very near the surface of the ground, and often in a thick tuft of grass,

THE HARVEST MOUSE ‡.

The Rev. Gilbert White seems to have been the first who examined this diminutive and slender spe-

* Trans. of Bath Soc. vol. vi. † White's Selborne.

‡ SYNONYMS.—Mus Messorius. *Kerr, Shaw.*—Less Long-tailed Field Mouse. Harvest Mouse. *Penn.*

cies of Mouse, which hitherto appears to have been only found in Hampshire. It is, he says, somewhat of a Squirrel colour ; with a white belly having a straight line along the sides, dividing the shades of the back and belly.

One of the nests of these little animals he procured. It was most artificially platted, and composed of the blades of wheat ; perfectly round, and about the size of a cricket-ball ; with the aperture so ingeniously closed, that there was no discovering to what part it belonged. It was so compact and well filled, that it would roll across the table without being discomposed, though it contained eight young Mice that were naked and blind. As this nest was perfectly full, how could the dam come at her litter respectively so as to administer a teat to each ? Perhaps she opens the different places for that purpose, adjusting them again when the business is over ; but she could not possibly be contained herself in the ball with her young, which moreover would be daily increasing in bulk. This wonderful proceant cradle, an elegant specimen of the efforts of instinct, was found in a wheat-field, suspended in the head of a thistle.

Mr. White remarked, that though the Harvest Mice hang their nests above the ground, yet in winter they burrow deep in the earth, and make warm beds of grass ; but their grand rendezvous seems to be in corn-ricks, into which they are carried at harvest.—This gentleman measured some of them ; and found that from nose to tail they were two inches and a quarter, and their tails were two inches long.

Two of them in a scale weighed down just one copper halfpenny, about the third of an ounce avoirdupois! whence he supposes them to be the smallest quadrupeds in this island. A full grown domestic Mouse would weigh at least six times as much as one of these *.

THE LEMMING RAT †.

The Lemmings are inhabitants of the mountains of Norway and Lapland. They vary much both in size and colour; those of Norway being almost equal to Water Rats, while those of Lapland are scarcely as large as Mice. The former are elegantly variegated with black and tawny in the upper parts, having the sides of the head and the under parts white. The legs and tail are greyish; and the under parts of the body a dull white. The head of the Lemming is large, short, and thick. The body is also thick; the neck short, and the limbs stout and strong. The tail is very short.

These animals feed entirely on vegetables. In summer they form shallow burrows under the surface of the ground, and in winter they make long passages under the snow in search of food; for as they lay up no winter store, they are reduced to the necessity of hunting for it during all the rigours of the cold season.

* White's Selborne.

† SYNONYMS.—*Mus Lemmus*. Linn.—*Lemmus Rat*. Lapland Marmot. *can.* *Lemming Buff*.—*Lemming*. *Pontoppidan*.—*Shaw's Gen. Zool.* pl. 135.—*Bew. Quad.* 375.

They seem to be endowed with a power distinguishing the approach of severe weather ; for before the setting in of a cold winter they leave their haunts in the above countries, and emigrate in immense multitudes southwards towards Sweden, always endeavouring to keep a direct line. These emigrations take place at uncertain intervals, though generally about once every ten years : and, exposed as the travellers are to attack, they of course become the food of all the predacious animals. Multitudes also are destroyed in endeavouring to swim over the rivers or lakes. From these different causes, very few of them live to return to their native mountains ; and thus a check is put to their ravages, as an interval of several years is necessary to repair their numbers sufficiently for another invasion. They are bold and fierce, and even will attack men and animals if they meet them in their course ; and they bite so hard, as to allow themselves to be carried to a considerable distance hanging by their teeth, before they will quit their hold *.

If they are disturbed or pursued while swimming over a lake, and their phalanx is separated by oars or poles, they will not recede ; but keep swimming directly on, and soon get into regular order again. They have sometimes been known even to endeavour to board or pass over a vessel. This army of Rats moves chiefly by night, or early in the morning ; and makes such destruction among the herbage, that the surface of the ground over which

* Pontoppidan, part ii. 31. Scheffer, 340.

they have passed, appears as if it had been burned. Their numbers have at times induced the common people of Norway to believe that they had descended from the clouds * ; and the multitudes that are sometimes found dead on the banks of rivers, or other places, corrupt by their stench the whole atmosphere around, and thus produce many diseases. They are even thought to infect the plants which they gnaw ; for cattle turned into pastures where they have been, are said frequently to die in consequence †.

They never enter dwellings, of any description, to do mischief ; but always keep in the open air. When enraged, they raise themselves on their hind-feet, and bark like little dogs. Sometimes they divide into two parties, attack each other, and fight like hostile armies. From these battles, the superstitions of the inhabitants of Sweden and Lapland pretend to foretell not only wars, but also their suc-

* Pontoppidan, ii. 32. The following is the form of the exorcism, adopted by the Romish Clergy, to banish these and other plagues from countries infested by them—"EXORCISMUS. Exorcizo vos pestiferos vermes, mures, aves seu locustas, aut animalia alia ; per Deum Patrem † Omnipotentem, et Jesum † Christum filium ejus, et Spiritum † Sanctum ab utroque procedentem : ut confestim recedatis ab his campis, seu vineis, vel aquis, nec amplius in eis habitetis ; sed ad ea loca transeat, in quibus nemini nocere possitis. Et ex parte Omnipotentis Dei, et totius curiæ celestis, et Ecclesiæ sanctæ Dei, vos maledicens quocunque ieritis : sitis maledicti, deficientes de die in diem in vos ipsos, et decrecentes ; quatenus reliquæ de vobis nullo in loco inveniuntur, nisi necessarie ad salutem et usum humanum. Quod præstare dignetur Ille, qui venturus est judicare vivos et mortuos et seculum per ignem. Amen."

† Buff. Quad. vii. 320.

cess, according to the quarters the animals come from, and the side that is defeated *.

The females breed several times in the year, and produce five or six at once. It has been observed, that they have sometimes brought forth during their migrations; and they have been seen carrying some their young in their mouths, and others on their backs.—The flesh of the Lemmings is not used as food. The hair is very fine, but too thick to be of value as a fur.

THE ECONOMIC RAT †.

The length of the Economic Rat is about four inches; and that of its tail, one inch. The limbs are strong; the ears short, naked, and almost hidden beneath the fur of the head. The general colour of the fur is tawny, somewhat whiter beneath than on the back.

These creatures inhabit Siberia and Kamtschatka, in vast abundance; making their burrows, with the utmost skill, immediately below the surface of a soft turfy soil. They form a low chamber, of a flattish arched form, about a foot in diameter, to which they sometimes add as many as thirty small passages or entrances. Near the chamber they often construct other caverns, in which they lodge their winter stores. These consist of plants; which they gather in summer, harvest and bring home; and even,

* Scheffer, 340.

† SYNONYMS.—*Mus Economicus*, *Lin.*—Economic Mouse, *Penn.*—*Tegoulitchick*, *Grieve.*—*Shaw's Gen. Zool.* pl. 134.

at times, they bring them out of their cells to give them a more thorough drying in the sun. The chief labour is performed by the females*.—They associate in pairs; and except during the summer (when the male leads a solitary life in the woods), the male and female are generally both to be found in the same nest.

The migrations of these animals are not less extraordinary than those of the Lemming. Both Dr. Grieve and Mr. Pennant have mentioned those of the Kamtscharka Economic Rats, but neither of them attempt to explain the cause. In the spring, says the former writer, they collect together in amazing numbers, and proceed in a direct course westward; swimming with the utmost intrepidity over rivers, lakes, and even arms of the sea. Many are drowned, and many destroyed by water-fowl or rapacious fish. Those that escape, on emerging from the water, rest awhile to bask, dry their fur, and refresh themselves. The Kamtschadales, who have a kind of superstitious veneration for these little animals, whenever they find any of them thrown upon the banks of the rivers, weak and exhausted, render them every possible assistance. As soon as they have crossed the river Penschinska, at the head of the gulph of the same name, they turn in a south-westerly direction; and, about the middle of July, generally reach the rivers Ochotska and Juddoma—a distance of about a thousand miles! The flocks are also so numerous, that travellers have

* Grieve, 105.

sometimes waited above two hours for them to pass. The retirement of these animals is very alarming to the Kamtschadales; but their return, which is generally in October, occasions the utmost joy and festivity, a successful chase and fishery being always considered as its certain consequence *.

The Kamtschadales never destroy the hoards of these Rats. They sometimes take away part of their store; but, in return for this, they invariably leave either some caviare, or other food, to support them in its stead †.

The manner in which the Economic Rats, in their foraging excursions, cross the rivers of Iceland, is thus related by Mr. Olafsen.—“The party, consisting of from six to ten, select a flat piece of dried cow-dung; on which they place the berries they have collected, in a heap in the middle. Then, by their united force, drawing it to the water's edge, they launch it, and embark; placing themselves round the heap, with their heads joined over it, and their backs to the water, their tails pendent in the stream and serving the purpose of rudders ‡.”

THE HAMSTER §.

The Hamster is about the size of the Brown or Norway Rat; but much thicker, and its tail only

* Grieve, 105. Penn. Arct. Zool. i. 134.

† Kerr, i. 238. ‡ Shaw, ii.

§ SYNONYMS.—*Mus Cricetus*. Linn.—German Marmot. Hamster Rat. Penn.—German Hamster. Kerr.—Hamster. Buffon. Shaw's Gen. Zool. pl. 137.—Bew. Quad. 370.

about three inches long. Its colour is reddish brown above, and black beneath; but on each side of the body, there are three large oval white spots. The ears are rather large. On each side of the mouth are two receptacles for food: which, when empty, are so far contracted, as not to appear externally; but when filled, they resemble a pair of tumid bladders, with a smooth veiny surface which is concealed by the fur of the cheeks.

These, the only species of the pouched Rats found in Europe, are inhabitants of Austria, Silesia, and many parts of Germany. They live under ground, burrowing down obliquely. At the end of their passage, the male sinks one perpendicular hole; and the female several, sometimes seven or eight. At the extremity of these are formed various vaults; either as lodges for themselves and young, or as store-houses for their food. Each young one has its separate apartment; and each sort of grain its appropriate vault: the former are lined with straw or grass. The vaults are of different depths, according to the age of the animals. A young Hamster makes them scarcely a foot deep; an old one sinks them to the depth of four or five feet. The whole diameter of the habitation, with all its communications, is sometimes eight or ten feet.

The male and female have always separate burrows; for, except in their short season of courtship, they have no intercourse. The whole race are so malevolent, as constantly to reject all association. They will fight, kill, and devour each other. The female shews little affection even for her young; for

if any person digs into the hole, she attempts to save herself by burrowing deeper into the earth, leaving them a prey to the intruder. They would willingly follow her ; but she is deaf to their cries, and even shuts up against them the hole which she has made*.

The Hamsters feed on grain, herbs, and roots ; and, at times, even eat flesh. Their pace is extremely slow ; but in burrowing in the ground they exhibit great agility. Not being formed for long journeys, their magazines are first stocked with such provisions as are nearest to their abode ; which accounts for some of their chambers being filled with only one species of grain. After the harvest is reaped, they, from compulsion, go to greater distances in search of provisions, and carry to their storehouses whatever eatables they can lay hold of.

To facilitate the transportation of food to their hoards, Nature has provided them with pouches in their cheeks.—These, in the inside, are furnished with many glands ; which secrete a certain fluid, that preserves the flexibility of the parts. They are each capable of containing about two ounces of grain ; which the animal empties into its granary, by pressing its two fore-feet against its cheeks.—When its cheeks are full, it may easily be caught with the hand, without the risk of being bitten ; as it has not, in this condition, the free motion of its jaws. If, however, a short time is allowed, it soon empties its pouch, and stands on the defensive.

On dissecting one of these animals, Dr. Russel

* Penn. Quad. ii. 462.

found the pouch, on each side of its mouth, stuffed with young French beans, arranged lengthways, so exactly and close to each other, that it appeared strange by what mechanism this had been effected ; for the membrane which forms the pouch, though muscular, is extremely thin, and the most expert fingers could not have packed the beans in more regular order. When they were laid loose on the table, they formed a heap three times the bulk of the animal's body *.

What these creatures lay up, is not for their winter's support, (since during that season, they always sleep ;) but for their nourishment, previously to the commencement, and after the conclusion, of their state of torpidity. The quantity in the burrows depends upon the size and sex of the inhabitants ; the old ones frequently amassing upwards of a hundred-weight of grain, but the young and the females providing a quantity much smaller.

At the commencement of the cold season, the Hamsters retire into their hiding places, the entrances to which they close up. Here they repose for some months ; and in this state they are often dug up by the peasantry, who at this season of the year employ much of their time in hunting for their retreats. These are easily known by the small mounds of earth raised at the end of the galleries. Here the men dig till the hoard is discovered ; which often consists of a bushel, or a bushel and a half, of corn : and

* Russel's Aleppo.

they are farther rewarded by the skins of the animals, which are esteemed valuable furs.

In some seasons, the Hamsters are so numerous, that they occasion a dearth of corn. In one year, about 11,000 skins ; in a second 54,000 ; and in a third year 80,000 ; were brought to the Town-house of Gotha, as vouchers of claims to the rewards allowed for the destruction of the animals.

The Hamster sleeps during the winter ; and though neither respiration nor any kind of feeling can be perceived in this state, yet the heart has been discovered (by opening the chest) to beat fifteen times in a minute. The blood continues fluid : but the intestines are not irritable ; and, in the open air, he does not become torpid. When found in a state of torpidity, his head is bent under his belly, between the two fore-legs, and the hind-legs rest upon his muzzle. The eyes are closed ; and when the eye-lids are forced open, they instantly shut again. The members are all stiff, and the body feels as cold as ice ; and if he is even dissected in this state, his lethargy is too strong to admit of his waking entirely.

The stupor of the Hamster has been ascribed solely to a certain degree of cold ; but experience has proved, that to render him torpid, he must also be excluded from all communication with the external air : for when one of them is shut up in a cage filled with earth and straw, and exposed in winter to a degree of cold even sufficient to freeze water, he never becomes so. But when the cage is sunk four or five feet under-ground, and well secured against the access of air, at the end of eight

or ten days he is as torpid as if he had been in his own burrow. If the cage is brought up to the surface, he will awake in a few hours ; and resumes his torpid state when put below the earth again.

When the animal is passing from a state of torpidity, his actions are very singular. He first loses the rigidity of his members ; and then makes profound respirations, but at long intervals. His legs begin to move ; he opens his mouth, and utters disagreeable and rattling sounds. After continuing these operations for some time, he opens his eyes, and endeavours to raise himself on his legs. But all these movements are still reeling and unsteady, like those of a man intoxicated with liquor ; he, however, reiterates his efforts, till he is at length able to stand on his legs. In this attitude he remains fixed ; as if he meant to reconnoitre, and repose himself after his fatigue. But he gradually begins to walk, to eat, and to act in his usual manner. This passage from a torpid to an active state, requires more or less time, according to the temperature of the air. When exposed to a cold air, he sometimes requires above two hours to awake ; but, in a more temperate air, he accomplishes his purpose in less than one.

The life of a Hamster is divided between eating and fighting. He seems to have no other passion than that of rage ; which induces him to attack every animal that comes in his way, without in the least attending to the superior strength of the enemy. Ignorant of the art of saving himself by flight, rather than yield he will allow himself to be beaten to

pieces with a stick. If he seizes a man's hand, he must be killed before he will quit his hold. The magnitude of the horse terrifies him as little as the address of the Dog, which last is fond of hunting him. When the Hamster perceives a Dog at a distance, he begins by emptying his cheek-pouches, if they happen to be filled with grain : he then blows them up so prodigiously, that the size of the head and neck greatly exceeds that of the rest of the body. He raises himself on his hind legs, and thus darts upon the enemy. If he catches hold, he never quits it, but with the loss of his life. But the Dog generally seizes him from behind, and strangles him. This ferocious disposition prevents the Hamster from being at peace with any animal whatever. He even makes war against his own species, not excepting the females. When two Hamsters meet, they never fail to attack each other, and the stronger always devours the weaker. A combat between a male and female commonly lasts longer than that between two males. They begin by pursuing and biting each other ; then each of them retires aside, as if to take breath. After a short interval they renew the combat, and continue to fight till one of them falls. The vanquished uniformly serves for a repast to the conqueror *.

The females bring forth twice or thrice a-year ; each litter consisting of six or eight young : and their increase in some years is so rapid, as almost to occasion a dearth. In about three weeks after their

* Buff. Quad. viii. 194—197.

birth, the young are able to seek their own provisions, which the dam compels them to do ; and in fifteen or sixteen days, they begin to dig the earth.

THE MARMOT TRIBE.

THE Marmots have two wedge-shaped front teeth in each jaw ; and five grinders on each side in the upper, and four in the lower. They have also collar bones in the skeleton*.

This tribe, of which only *eight* species are yet known, does not differ in many particulars from that of the Rats. The animals have thick cylindrical bodies, and large roundish heads. The fore-feet have four claws, and a very small thumb ; and the hind feet five claws. They reside in subterraneous holes, and pass the winter in sleep.

THE ALPINE MARMOT †.

The Alpine Marmot frequents the highest summits of the Alps and Pyrenæan Mountains, and is also found in some parts of Asia. It is about sixteen inches in length, has a short tail, and bears some resemblance both to the Rat and the Bear.

* Linn. Gmel. i. 141.

† SYNONYMS.—*Aretonys Marmota*, Linn. Gmel.—*Mus Marmota*, Linn. Syst. Nat. Ed. xii.—Common Marmot. Kerr.—Marmotte. Buffon.—Alpine Marmot. Penn.—Shaw's Gen. Zool. pl. 143.—Bech. Quad. 366.

The colour is brownish above, and bright tawny on the under parts. The head is rather large, and flat-tish ; the ears short, and hid in the fur ; and the tail thick and bushy.

These singular quadrupeds delight in the regions of frost and of snow, and are seldom to be found but on the tops of the highest mountains. They remain in a torpid state during winter. About the end of September, or the early part of October, they retire into their holes, and do not come abroad again till the beginning of April. Their retreats are formed with much art and precaution. They do not make a single hole, nor either a straight or a winding tube ; but a kind of gallery in the form of a Y, each branch of which has an aperture, and both terminate in a capacious apartment, where several of the animals lodge together. As the whole operation is performed on the declivity of a mountain, the innermost aperture alone is horizontal. Both the branches are inclined : one of them descends under the apartment, and follows the declivity of the mountain ; this is a kind of aqueduct, and also receives and carries off all the filth that is produced within : the other, which rises above the principal apartment, is used for coming in and going out at. The place of their abode is well lined with moss and hay, of which they lay up great store during the summer.

It is affirmed, that this labour is carried on jointly : that some of the animals cut the finest herbage, which is collected by others ; and that they transport it to their dens in the following manner. One,

it is said, lies down on his back, allows himself to be loaded with hay, and extends his limbs; and others trail him, thus loaded, by the tail, taking care not to upset him. The task of thus serving as a vehicle, is divided alternately among the number. "I have often (says M. Beauplan) seen them practise this, and have had the curiosity to watch them at it for whole days together." The repeated frictions arising from sustaining a passive part in the operation, are assigned as the reason why the hair is generally rubbed off from their backs. But it is more probable that this effect is produced by their frequent digging of the earth, which alone is sufficient to peel off the hair. However this may be, it is certain that they dwell together, and work in common in their habitations, where they pass three-fourths of their lives. Thither they retire during rain, or on the approach of danger; and never go out but in fine weather, and even then to no great distance.

One of them stands sentinel upon a rock, while the others gambol upon the grass, or are employed in cutting it in order to make hay. If the sentinel perceives a Man, an Eagle, a Dog, or other dangerous animal, he instantly alarms his companions by a loud whistle, and is himself the last that enters the hole *.

As they continue torpid during the winter; and as if foreseeing, that they would then have no oc-

* Beauplan's description of Ukraine.—This writer seems either to have mistaken the Marmot for the next following species, or to have confounded the two. The animals he describes, he calls Bobaques.

casion for food ; they lay up no provisions in their apartments. But, when they feel the first approaches of the sleeping season, they shut up both the passages to their residence ; and this operation they perform with such labour and solidity, that it is more difficult to dig the earth in the parts they have thus fortified than in any adjacent spot. At this time they are very fat, weighing sometimes twenty pounds : and continue so for three months ; but afterwards gradually decline, and by the end of winter become extremely emaciated. When seized in their winter retreats, they appear rolled up in the form of a ball, and are covered with hay. In this state they are so torpid, that they may be killed without seeming to feel the smallest pain. Like the Dormice, and all other animals which sleep during the winter, the Marmots are revived by a gradual and gentle heat. And those individuals that are fed in houses, and kept warm, never become torpid, but are equally active and lively through the whole year.

In their wild state, the old Marmots, at break of day, come out of their holes and feed ; afterwards they bring out their young ones. The latter scamper on all sides ; chase each other ; sit on their hind-feet ; and remain in that posture, facing towards the sun, with an air expressive of satisfaction. They are all particularly fond of warmth ; and when they think themselves secure, will bask in the sun for several hours. Before they collect the grass, either for their food or for their winter habitations, they form themselves into a circle, sitting on their hind-legs, and look about on all sides. On the least alarm

being given, they immediately hasten to their hiding places.

In the countries where the rhubarb * grows, it is said that the Marmot generally fixes its residence near those plants ; and wherever ten or twenty of these are found near each other, there are always several of its burrows under the shade of their broad leaves. It is probable, that the manure thus laid about the root contributes, in a considerable degree, towards the increase of the plants ; and that the casting up of the earth causes the young shoots to come forth more freely. The Mongols take very little care in the cultivation of rhubarb ; therefore we seem to be in a great measure indebted to the Marmots for this useful root. Wherever the seed becomes scattered among grass it is generally lost, from not reaching the ground ; but when it is thrown among the loose earth cast up by these little animals, it immediately takes root, and produces a new plant †.

The Marmot has a quick eye, and discovers an enemy at a considerable distance. He never does the least injury to any other animal, and attempts to escape when attacked. In fact, when apprehensive of being followed, whole families of them quit their dwellings, and wander from mountain to mountain, although they have in consequence new habitations to construct. But, when flight is impossible, they defend themselves with spirit against even Men and Dogs,

* *Rheum Palmatum*, of Linnæus.

† Bell, i. 338.

and assail both with their teeth and claws all those who approach them.

When taken young, the Marmot is easily domesticated. It will walk on its hind-feet, sit upright, and carry food to its mouth with its fore-feet. It will dance with a stick between its paws, and perform various tricks to please its master.—It has a singular antipathy to Dogs, and will maintain an attack from even the most formidable of them. Though small, it is extremely stout, and in addition to this, peculiarly dexterous; and notwithstanding it is able to bite most cruelly, it attacks no one unless previously irritated.

When they are on the ground, these creatures may be caught without difficulty; but except when torpid, they are not so easily taken in their holes, since they dig very deep when in danger.—In winter they are taken in great numbers; both on account of their flesh, which is very tender and delicate, and for their skins. Their fat is esteemed medicinal by the inhabitants of the Alps.

THE BOBAC *.

The Bobac is about the size of the Alpine Marmot. Its colour is grey above, and beneath fulvous or ferruginous. The tail is short, somewhat slender, and very hairy.—It is a native of Poland, Russia, and other mountainous parts of Europe.

* SYNONYMS.—*Arctomys Bobac*. *Linn. Gmel.*—Bobak. *Bergl. n.*—*Shaw's Gen. Zool. pl. 144.*

These animals burrow obliquely in the ground to the depth of two, three, or four yards: and form numbers of galleries, with one common entrance from the surface; each gallery ending in the nest of its inhabitants. Sometimes, however, the burrows consist of but one passage. Though these are found in the greatest numbers where the earth is lightest, yet they are very common even in the strata of the mountains. In very hard and rocky places, from twenty to forty of these animals join together to facilitate the work; and they live in society, each with its nest at the end of its respective gallery.—To their nests they collect (especially towards autumn) the finest hay they can procure; and in such plenty, that sufficient is often found in one of them for a night's food for a Horse.

During the middle, or sunny part of the day, they sport about the entrance of their holes; but seldom go far from them. At the sight of Man, they retire with a slow pace; and sit upright near the entrance, giving a frequent whistle, and listening to the approach. In places where they live in large families, they always place a sentinel to give notice of any danger, during the time when the rest are employed in feeding*.

They are mild, good-natured, and timid. They feed only on vegetables; which they go in search of in the morning, and about the middle of the day. They sit on their hams when they eat, and carry the food to their mouth with their fore-paws;

* Penn. Quad. ii. 400.

and in this posture it is that they defend themselves when attacked. When they are irritated, or when any one attempts to lay hold of them, they bite desperately, and utter a very shrill cry.—In summer they eat voraciously : but remain torpid all winter, except when kept in very warm places ;—and even then they eat but little, and will, if possible, escape into some comfortable place in which to pass this dreary season ; but they return to their master in the spring. They very soon become tame, even when taken of full age ; and the young ones are familiar from the moment they are caught:

The flesh is eatable ; and, except that it is somewhat rank, resembles that of the Hare. The fat is used for dressing leather and furs ; and the skins are employed by the Russians for clothing.—The female brings forth early in the spring, and has usually six or eight young ones at a litter.

THE SQUIRRELS.

THE Squirrels are for the most part light, nimble, and elegant animals ; climbing trees with the utmost agility, and springing with astonishing security from one branch to another. Some of them are provided with hairy membranes, extending from the fore to the hind-legs ; which, when spread out, by rendering them more buoyant, enable them to leap considerable distances from tree to tree. Some

of the species form their nests, and live almost entirely, in the trees; and others burrow under the ground. None of them are carnivorous. Many of the Squirrels may, with care, be rendered docile; but when they are in the least irritated, they attempt to bite. In confinement they are generally very frolicsome. When they are on the ground, they advance by leaps; and in eating they sit erect, and hold the food in their fore-paws.

They have two front-teeth in each jaw; the upper ones wedge-shaped, and the lower sharp: five grinders on each side of the upper-jaw, and four on each side of the under one. They have also collar-bones in the skeleton; and in most of the species, the tail spreads towards each side *.

THE COMMON SQUIRREL †.

This elegant little animal is equally admired for the neatness of its figure, and the activity and liveliness of its disposition. Though naturally wild and timid, it is soon reconciled to confinement, and easily taught to receive with freedom the most familiar caresses from the hand that feeds it.

In the spring these creatures seem peculiarly active; pursuing each other among the trees, and exerting various efforts of agility. During the warm summer nights they may also be observed in a si-

* Linn. Gmel. i. 145.

† SYNONYMS.—*Sciurus vulgaris*. Linn.—*Ecureil*.—*Beffon*.—*Bew. Quad.* 352.

milar exercise. They seem to dread the heat of the sun ; for during the day, they commonly remain in their nests, and make their principal excursions by night.

The nest of the Squirrel is, in its construction, exceedingly curious. It is generally formed among the large branches of a great tree, where they begin to fork off into small ones. After choosing the place where the timber begins to decay, and where a hollow may the more easily be formed, the Squirrel begins by making a kind of level between these forks ; and then bringing moss, twigs, and dry leaves, it binds them together with such art as to resist the most violent storm. This is covered up on all sides ; and has but a single opening at the top, just large enough to admit the little animal ; and this opening is itself defended from the weather by a kind of canopy, formed like a cone, so as to throw off the rain, however heavy it may fall. The nest thus formed, is very commodious and roomy below ; soft, well knit together, and every way convenient and warm. The provision of nuts and acorns is seldom found in its nest ; but in the hollows of the tree, carefully laid up together, and where it is never touched by the animals but in cases of necessity when no food is to be had abroad. Thus a tree serves both for a retreat and a storehouse ; and without leaving it during the winter, the Squirrel possesses all those enjoyments that his nature is capable of receiving.

This little animal is extremely watchful : and it is said, that if the tree in which it resides is but touch-

ed at the bottom, it takes the alarm, quits its nest, at once flies off to another tree, and thus travels with great ease along the whole forest, until it finds itself perfectly out of danger. In this manner it continues for some hours at a distance from home, until the alarm is past ; and then it returns by paths that, to nearly all quadrupeds but itself, are utterly impassable. Its usual way of moving is by bounds ; these it takes from one tree to another at a very great distance ; and if it is at any time obliged to descend, runs up the side of the next tree with astonishing facility.

It seldom makes any noise, except when it experiences either pain or pleasure : in the former case it makes a sharp piercing note ; and in the latter, it makes a noise not unlike the purring of a Cat. —The tail of the Squirrel is its greatest ornament ; and serves as a defence against the cold, being large enough to cover the whole body : it is likewise of use to the animal in taking its leaps from one tree to another.

In northern climates the Squirrels change their red summer coat, on the approach of winter, to grey ; and it is singular that this alteration will take place in those climates, even within the warmth of a stove. Dr. Pallas had one, entirely red, brought to him on the 12th of September. It was placed in a stove. About the 4th of October many parts of its body began to grow hoary : and when it died, which was just a month afterwards, the whole body had attained a grey colour ; the legs, and a small part of the face, alone retaining a reddish tinge *.

* Pallas, Nov. Sp. Quad. 373.

THE GREY SQUIRREL*.

This species, both in its form and manners, very much resembles the Common Squirrel. It is about the size of a young Rabbet; and except the inside of the limbs, and the under parts of the body, which are white, its colour is an elegant pale grey.

The Grey Squirrels are said to be natives of Lapland, and some other northern climates. They often change the places of their residence; and sometimes not one of them can be found during a whole winter, where there were millions in the preceding year. In their journeys from one part of the country to another, when it becomes necessary to pass a lake or river (which is very frequently the case in Lapland), they lay hold of a piece of pine or birch bark, which they draw to the edge of the water, mount upon it, and abandon themselves to the waves. They erect their tails, to catch the wind; but, if it blows too strong, or the waves rise high, the pilot and the vessel are both overturned. This kind of wreck, which often consists of three or four thousand sail, generally enriches some Laplanders, who find the dead bodies on the shore; and, if these have not lain too long on the sand, they prepare the furs for sale. But when the winds are favourable, the adventurers make a happy voyage, and arrive in safety at their destined port†.

* SYNONYMS.—*Sciurus Cinereus*. *Lin.*—*Petit gris*. *Buffon*.—*Grey Squirrel*. *Catesby*. *Penn.*—*Shaw's Gen. Zool.* pl. 147.—*Bew. Quad.* 354.

† Schæffer, 338, who quotes Olaus Petri as a witness to one of these migrations.

The Grey Squirrels are also natives of North America : where they do much mischief in the plantations, but particularly among the maize ; for they climb up the stalks, tear the ears in pieces, and eat only the loose and sweet kernel which lies quite in the inside. They sometimes come by hundreds upon a maize-field, and thus destroy the whole crop of a farmer in one night. In Maryland therefore, some years ago, every person was compelled to procure and exhibit annually four fresh Squirrels ; the heads of which, to prevent deceit, were given to the surveyor. In other provinces, every one who killed a Squirrel received from the public treasury two-pence on delivering up its head. Pennsylvania alone paid, from January 1749 to January 1750, no less a sum than *eight thousand pounds*, currency, in rewards for the destruction of these animals ; consequently in that year as many as 640,000 must have been killed.

This species resides principally among the trees ; in the hollows of which it makes its nest, with straw, moss, and other materials : and feeds on acorns, fir-cones, maize, &c. as well as on various kinds of fruit. It is said to amass great quantities of provision for winter ; which it deposits in holes that it prepares beneath the roots of trees, and in other places.

When these animals are sitting on a bough, and perceive a Man approach, they instantly move their tails backward and forward, and make a chattering noise with their teeth. This renders them peculiarly odious to sportsmen, who often lose their game by the alarm they thus create.

The flesh of the Grey Squirrel is eaten by some

persons, and is esteemed very delicate. The skins in America are used for ladies' shoes; and are often imported into England for the lining or facing of cloaks*.—They are very difficult to kill; changing their place on the trees with such expedition, as generally to elude the shot of the most expert marksman.—They are said to be easily tamed; and in that state to associate readily with other domestic animals.

THE BLACK SQUIRREL †.

The Black Squirrels are very nearly allied to the preceding species; differing principally in their coal-black colour, and somewhat shorter tail. The muzzle and the tip of the tail are sometimes white.

They are natives of America, and migrate from the territory of the United States. They take to the water when rivers lie in their route; but, as if conscious of their inability to cross the Niagara in its wide parts, they have been observed to bend their course along its banks, above the falls, and at its narrowest and most tranquil parts to cross into the British territory. In the year 1795, it was calculated that in the course of two or three days, fifty thousand of them passed that river; and they committed such depredations on arriving at the settlements on the opposite side, that in one part of the country the farmers deemed themselves very fortu-

* Penn. Arct. Zool. i. 117.

† SYNONYMS.—*Sciurus Niger*. *Lin.*—*Ecureil noir*. *Buffon*.—Black Squirrel. *Catesby*. *Penn.*—*Shaw's Gen. Zool.* pl. 147.

nate where they got in only one-third of their crop of corn.

“ Some writers (says Mr. Weld) have asserted that these animals cannot swim ; but that when they come to a river, each one provides itself with a piece of wood or bark, upon which, when a favourable wind offers, it embarks, spreads its bushy tail to catch the wind, and is thus wafted over to the opposite side. Whether they do or do not cross in this manner sometimes, I cannot take upon me to say ; but I can safely affirm that they do not always cross so, as I have frequently shot them in the water while swimming. No animals swim better ; and, when pursued, I have seen them eagerly take to the water. In swimming, their tail serves them by way of rudder, and they use it with great dexterity ; owing to its being so light and bushy, the greater part of it floats upon the water, and thus helps also to support them. Their migration in large numbers, is said to be an infallible sign of a severe winter *.”

THE STRIPED SQUIRREL †.

The length of the Striped Squirrel is about six inches ; its tail, which is rather more, is not curved and bushy, but long and very narrow. The skin is of a reddish brown ; and is marked with five black

* Weld.

† SYNONYMS.—*Sciurus Striatus*. *Linn.*—Striped Dormouse. *Penn.*—Ground Squirrel. *Kerr.*—*Ecureil Suisse*. *Buffon.*—*Suisse Squirrel*. *La Montan.*—*Shaw's Gen. Zool. pl.* 148.—*Bew. Quad.* 950.

streaks, one of which runs along the back, and two on each side.—These animals eat all kinds of corn; and, like the Common Squirrel, collect provisions in autumn for the winter, and store them in their holes. They have two cheek pouches; which they fill with corn in the fields, and in this manner convey it home.

They are natives of America; and dig holes in the ground, which serve for their habitations, and to which they fly for shelter whenever danger is near. Their holes are deep; and commonly divided into many branches, from one of which they have an opening to the surface of the ground. The advantage they derive from this is, that when they ramble abroad for food, and are prevented from entering the hole at which they went out, they may not expose themselves to their pursuers, but immediately retreat into the other. But in autumn, when the leaves are falling from the trees, it is very diverting to observe their consternation when pursued:—for their holes being covered with leaves, they have then some difficulty in finding them: they run backward and forward, as though they had lost their way; and seem to know where their subterraneous haunts lie, but cannot discover the entrances. If they are pursued, and any sudden or loud noise is made, they are constrained to take refuge in the trees; but this they never do unless in cases of necessity*.

Their subterraneous dwellings are formed with

* Kalm.

much art ; being worked into long galleries, with branches on each side, and each terminating in an enlarged apartment in which they hoard their stock of winter provision. Their acorns are lodged in one ; in a second the maize ; in a third the hickery-nuts ; and in the fourth, perhaps their most favourite food, the chesnut. Nature has given them a fine convenience for collecting their provisions, in their cheek pouches ; which they fill with different articles of their food, that are to be conveyed to their magazines. In Siberia they hoard up the kernels of the stone-pine in such quantities, that ten or fifteen pounds weight of them have been taken out of a single magazine *.

As a Swede was some time ago making a mill-dike, pretty late in autumn, he took for that purpose the soil of a neighbouring hill, and met by chance with a subterraneous walk belonging to these Squirrels. By tracing it to some distance, he discovered a gallery on one side, like a branch parting from the main stem. It was nearly two feet long ; and at its extremity was a quantity of remarkably plump acorns of the white oak, which the careful little animal had stored up against the winter. He soon afterwards found another gallery, on one side, like the former, but containing a store of maize ; a third had hickery-nuts ; and the last and most secret one contained as many excellent chesnuds as would have filled two hats †.

In winter, these Squirrels are seldom seen ; as

* Penn. Arct. Zool. i. 127.

† Kalm, i. 228.

during that season they keep within their holes. On a fine clear day, however, they sometimes come out.—They frequently dig through into cellars, where the country people lay up their apples; these they often eat or spoil in such a manner that few or none of any value are left.—In the choice of their food they are remarkably nice; having been observed, after filling their pouches with rye, to fling it out on meeting with wheat, and to substitute for it the superior grain*.

They are not to be tamed without great difficulty; and even then it is always dangerous to handle them, as they will bite pretty keenly when a person is not aware of them.

They are caught merely on account of their skins; which, though forming but a slight or ordinary fur, have a very pleasing appearance when properly set off. These are said to be chiefly sold to the Chinese.

THE AMERICAN FLYING SQUIRREL †.

This animal, which is a native of most parts of North America, has large black eyes, circular naked ears, and a hairy membrane extending nearly round the body. The tail, which tapers to a point, has its hairs disposed flatways on its sides. The upper parts of the body are of a cinereous brown: the belly is white, tinged with yellow. The membrane passes

* Penn. Arct. Zool. i. 127.

† SYNONYMS.—*Sciurus Volucella*. Linn.—Flying Squirrel. *Catesby*.—Quimichpatlan. *Fernand*.—Polatouche. *Buffon*.—American Flying Squirrel. *Shaw*.

the fore and hind legs, to the tail : on the fore legs it adheres as far as the toes, and includes a peculiar bone which is attached to the wrist, and helps to stretch out this skin in flying ; and on the hind leg it extends to the ancles *.

These Squirrels inhabit hollow trees : where they sleep during the day, and from whence they only make their appearance in the night ; at which latter time they are very lively and active. They associate in flocks ; several living in the same tree, which they never willingly quit to run upon the ground, but almost constantly reside among the branches.—By means of their lateral membranes, they are able to make astonishing leaps of ten or twelve yards, from tree to tree. In these efforts they extend their hind legs, and stretch out the intervening skin, by which they present a greater surface to the air, and become more buoyant. They are, however, still under the necessity of taking advantage of the lower branches of the trees ; to which they leap, for their weight prevents them from keeping in a straight line. Sensible of this, they always take care to mount so high as to ensure them from falling to the ground. This extended skin acts upon the air somewhat in the manner of a paper kite, and not by repeated strokes like the wings of a bird. The animal, being naturally heavier than the air, must of course descend ; the distance, therefore, to which it can jump, depends on the height of the tree on which it stands. When it is at rest, the skin is wrinkled up against its sides.

* Kerr, i. 267.

These animals are generally seen in flocks of ten or twelve ; and to persons unaccustomed to them, they appear at a distance, in their leaps, like leaves blown from the trees by the wind. “ When I first saw them (says Catesby), I took them for dead leaves blown one way by the wind ; but was not long so deceived, when I perceived many of them follow one another in the same direction. They will fly fourscore yards from one tree to another *.”

The females produce three or four young at a time. This species use the same food, and form their hoards in the same manner, as others of the Squirrel tribe. They are easily tamed, and soon become familiar : they love warmth, and are very fond of creeping into the sleeve or pocket of their owner ; and if thrown upon the ground, they instantly shew their dislike to it by running up and sheltering themselves in his clothes †.

THE EUROPEAN FLYING SQUIRREL †.

The European Flying Squirrel differs from the last species principally in having its tail full of hair, and rounded at the end : and in the colour of its body ; the upper part of which is a fine grey, and the lower white. Its whole length is about nine inches, of which the tail occupies five.—It is found in the woods of Siberia, Lapland, and other north-

* Catesby, ii. 77.

† Penn. Arct. Zool. ii. 120.

‡ SYNONYMS.—*Sciurus Volans*. Linn.—Flying Squirrel. Penn.—Polatouche. Buffon.—*Shaw's Gen. Zool. pl.* 149.—*Bew. Quad.* 361.

ern regions, where it feeds principally on the young branches of the beech and pine.

Its nest is formed of moss, in the hollows, high among the branches; and, except during the breeding season, it is solitary. It always sleeps during the day-time, and seldom appears abroad in bad weather. It is active the whole winter; being frequently taken during that season, in the traps laid for the Grey Squirrels. Like the last species, it can leap to vast distances from tree to tree.

The females have two, three, and sometimes four, young at a time. When the mother goes out in search of food, she carefully wraps them up in the moss of her nest. She pays them the utmost attention; brooding over them, and sheltering their tender bodies, by her flying membrane, from the cold. When taken from the nest, it has been found very difficult to keep the young alive; owing probably to the want of proper food.—The skins of these Squirrels are not very valuable in a commercial view*.

THE DORMICE.

THESE animals live in holes in the ground, where they always continue in a state of torpidity during the winter. Their pace is a kind of leap; in which,

like the Jerboas, they are assisted by their tails. They feed entirely on vegetables, and eat only in the night. In this act they sit upright, and carry the food to their mouth with the paws. When they are thirsty, they do not lap (like most other quadrupeds); but dip their fore-feet, with the toes bent, into the water, and drink from them *.

They have two front-teeth in each jaw; the upper wedge-shaped, the lower compressed; and in each jaw four grinders. The whiskers are long. The tail is cylindrical, hairy, and thickest towards the end. The fore and hind legs are of nearly equal length; and the fore-feet have each four toes †.

THE COMMON DORMOUSE ‡.

This animal is about the size of a Mouse; but more plump or rounded; and of a tawny red colour, with a white throat and full black eyes.—It lives in woods, or thick hedges; forming its nest of grass, dried leaves, or moss, in the hollow of some low tree, or near the bottom of a close shrub.

The Dormice have not the sprightliness of the Squirrel; but, like that animal, they form little magazines of nuts, acorns, and other food, for their winter provision. The consumption of their hoard, during the rigour of winter, is but small; for, retiring into their holes on the approach of the cold,

* Kerr. i. 270.

† Linn. Gmel. i. 155.

‡ SYNONYMS.—*Myoxus Muscardinus*. Linn. Gmel.—*Mus Avelanarius*.—Linn. Syst. Nat. ed. xii.—Dormouse, or Sleeper. Ray.—*Muscardin*. Buffon.—*Shaw's Gen. Zool. pl.* 151.—Bew. Quad. 390.

and rolling themselves up, they lie torpid nearly all that gloomy season. Sometimes they experience a short revival in a warm sunny day ; when they take a little food, and then relapse into their former state.

They make their nest of grass, moss, and dried leaves ; this is six inches in diameter, and open only from above.—Their number of young, is generally three or four.

THE JERBOA TRIBE.

The Jerboas seem, in many respects both of conformation and habit, much allied to the Kangaroos ; but an adherence to artificial system will not allow them to be arranged together. They use their long hind legs in leaping, very seldom going on all-fours ; and with their fore-legs, they both carry the food to their mouth, and make their holes in the ground. They are inhabitants principally of the warmer climates.

They have two front teeth above, and two below. The fore-legs are short, and the hind-ones very long ; and they have clavicles, or collar bones.

THE SIBERIAN JERBOA *.

This species is found in different parts of the Eastern deserts of Siberia : it also occurs in Bar-

* SYNONYMS.—*Dipus Jaculus*. *Linn. Gmel.*—*Mus Jaculus*.—*Linn. Syst. Nat. ed. xii.*—Egyptian Jerboa. *Pennant.*—Jerboa. *Brace.*—Jerbo. *Sonnini.*—Gerboa, or Daman Israel. *Shaw's Travels.*—Gerboise et Alagtaga. *Buffon.*—Erdhaase. *Gmelin's Travels.*—*Shaw's Gen. Zool. pl. 158.*—*Bew. Quad. 364.*

bary, Syria, and some parts of Tartary; but seldom in great plenty. It is of a pale-yellowish fawn colour on the upper parts, and white beneath. The length of the body is about eight inches; and of the tail, ten. It very much resembles the Egyptian Jerboa; except in the hind-feet, each of which has five instead of three toes.

The Jerboas inhabit dry, hard, and clayey ground. They dig their burrows very speedily, not only with their fore-feet, but with their teeth; and fling the earth back with their hind-feet, so as to form a heap at the entrance. The burrows are many yards long; and run obliquely and winding, but not above half-a-yard deep below the surface. They end in a large space or nest, the receptacle of the purest herbs. They have usually but one entrance; yet, by a wonderful sagacity, the animals work from their nest another passage, to within a very small space from the surface, which, in case of necessity, they can burst through, and so escape*.

The sands and rubbish which surround modern Alexandria, are much frequented by the Jerboas. They live there in troops; and, in digging the ground, are said to penetrate even through a stratum of softish stone, which is under the layer of sand. Though not actually wild, they are exceedingly restless: the slightest noise, or any new object whatever, makes them retire to their holes with the utmost precipitation.

It is almost impossible to kill them, except when

* Penn. Quad. ii. 430.

they are taken by surprise. The Arabs have the art of catching them alive, by stopping up the outlets to the different galleries belonging to the colony ; one excepted, through which they force them out *.

Though animals of a very chilly nature, they keep within their holes in the day, and wander about only during the night. They first come out at sun-set, and clear their holes of their filth ; and they remain abroad till the sun has drawn up the dews from the earth †.

They walk only on their hind legs, the fore-legs being very short ; and, on the approach of any danger, they immediately take to flight, in leaps six or seven feet high, which they repeat so swiftly that a man mounted on a good horse can scarcely overtake them. They do not proceed in a straight line ; but run first to one side, and then to the other, till they find either their own burrow, or some neighbouring one. In leaping, they bear their tails (which are longer than their bodies) stretched out. In standing or walking, they carry them in the form of an S ; the lower part touching the ground, so that it seems a director of their motions. When surprised, they will sometimes go on all-fours ; but they soon recover their attitude of standing on their hind-legs, like a bird. When undisturbed, they use the former posture ; then rise erect, listen, and hop about like a crow. In digging or eating, they drop on their

* Sonnini, i. 162.

† Sonnini observes, that, as far as he could learn, the contrary is the case ; and that their principal time of being abroad is during the day.

fore-legs ; but in the latter action, they often sit up also like a squirrel *.

The Arabs of the kingdom of Tripoli, in Africa, teach their Greyhounds to hunt the Antelope, by first instructing them to catch Jerboas : and so agile are these little creatures, that Mr. Bruce has often seen, in a large court-yard or inclosure, the Greyhound employed a quarter of an hour before he could kill his diminutive adversary ; and had not the Dog been well trained, so as to make use of his feet as well as his teeth, he might have killed two Antelopes in the time of killing one Jerboa †.

In their wild state, these animals are fond of tulip-roots, and nearly all the oleaginous plants ; but in confinement, they do not refuse raw meat. They are the prey of most of the smaller rapacious beasts. It requires no difficulty to tame them, but it is necessary that they should be kept warm. They are so susceptible of cold, as to foretell bad weather by wrapping themselves close up in their cage before its commencement ; and those that are abroad, always, on these occasions, stop up the mouths of their burrows. They sleep during the winter, but a warm day sometimes revives them. On the return of the cold they retreat again to their holes ‡.

M. Sonnini fed for some time, while he was in Egypt, six of these animals, in a large cage of iron wire. The very first night they entirely gnawed asunder the upright and cross sticks of their prison ; and he was under the necessity of having the inside

* Penn. Quad. ii. 430.

† Bruce.

‡ Penn. Quad. ii. 431.

of the cage lined with tin. They were fond of basking in the sun ; and the moment they were put in the shade, they clung to each other, and seemed to suffer from the privation of warmth. They did not usually sleep during the day. Though they had much agility in their movements, gentleness and tranquillity seemed to form their character. They suffered themselves to be stroked with great composure ; and never made a noise or quarrelled, even when food was scattered among them. No distinguishing symptoms of joy, fear, or gratitude were discoverable : and even their gentleness was by no means either amiable or interesting ; it appeared the effect of a cold and complete indifference, approaching to stupidity. Three of these died, before Sonnini left Alexandria ; two died on a rough passage to the island of Rhodes ; and the last was lost, and, as he supposes, devoured by Cats, while he was at the island.

He says it is very difficult to transport these tender little creatures into other climates : but as an indispensable precaution to those who attempt it, he advises that they be close shut up in strong cages, or other conveniences, without any possibility of escaping ; for their natural disposition inciting them to gnaw whatever comes in their way, they may occasion very considerable damage to a ship in the course of her voyage ; and, being able to eat through the hardest wood, may even endanger her sinking *.

* Sonnini, i. 262.

They breed several times in the summer, and bring seven or eight young at a time. The Arabs eat them, and esteem them among their greatest delicacies.

THE HARE TRIBE.

THE generic character of the Hares consists in their having two front-teeth, both above and below, the upper pair duplicate ; two small interior ones standing behind the others : the fore-feet with five, and the hinder with four, toes.

These animals live entirely on vegetable food, and are all remarkably timid. They run by a kind of leaping pace, and in walking they use their hind-feet as far as the heel. Their tails are either very short (called in England *scuts*) ; or else they are entirely wanting*.

THE COMMON HARE†.

This little animal is found throughout Europe, and indeed in most of the northern parts of the world. Being destitute of weapons of defence, it is endowed by Providence in a high degree with the sentiment of fear. Its timidity is known to every one : it is attentive to every alarm, and is, therefore, furnish-

* Kerr. ii. 277.

† SYNONYMS.—*Lepus Timidus*. Linn.—*Lievre*. Buffon.—*Shaw's Gen. Zool. pl.* 162.—*Bew. Quad.* 337.

ed with ears very long and tubular, which catch the remotest sounds. The eyes are so prominent as to enable the animal to see both before and behind.

The Hare feeds in the evenings, and sleeps in his *form* during the day; and as he generally lies on the ground, his feet are protected, both above and below, with a thick covering of hair. In a moon-light evening many of them may frequently be seen sporting together, leaping about and pursuing each other; but the least noise alarms them, and they then scamper off, each in a different direction. Their pace is a kind of gallop, or quick succession of leaps; and they are extremely swift, particularly in ascending higher grounds, to which, when pursued, they generally have recourse: here their large and strong hind-legs are of singular use to them.—In northern regions, where, on the descent of the winter's snows, they would (were their summer fur to remain) be rendered particularly conspicuous to animals of prey, they change their yellow-grey dress in the autumn, for one perfectly white; and are thus enabled, in a great measure, to elude their enemies.

In more temperate regions they chuse in winter a form exposed to the south, to obtain all the possible warmth of that season; and in summer, when they are desirous of shunning the hot rays of the sun, they change this for one with a northernly aspect: but in both cases they have the instinct of generally fixing upon a place where the immediately surrounding objects are nearly the colour of their own bodies.

In one Hare that a gentleman watched ; as soon as the Dogs were heard, though at the distance of nearly a mile, she rose from her form, swam across a rivulet, then lay down among the bushes on the other side, and by this means evaded the scent of the Hounds. When a Hare has been chased for a considerable length of time, she will sometimes push another from its seat, and lie down there herself. When hard pressed, she will mingle with a flock of Sheep, run up an old wall and conceal herself among the grass on the top of it, or cross a river several times at small distances. She never runs in a line directly forward ; but constantly doubles about, which frequently throws the Dogs out of the scent : and she generally goes against the wind. It is extremely remarkable that Hares, however frequently pursued by the Dogs, seldom leave the place where they were brought forth, or that in which they usually sit ; and it is a very common thing to find them, after a long and severe chase, in the same place the day following.

The females have less strength and agility than the males : they are, consequently, more timid ; and never suffer the Dogs to approach them so near, before they rise, as the males. They are likewise said to practise more arts, and to double more frequently.

This animal is gentle, and susceptible even of education. He does not often, however, though he exhibits some degree of attachment to his master, become altogether domestic : for, even when taken very young, brought up in the house, and

accustomed to kindness and attention, no sooner is he arrived at a certain age, than he generally seizes the first opportunity of recovering his liberty, and flying to the fields.

While Dr. Townson was at Göttingen, he had a young Hare brought to him, which he took so much pains with as to render it more familiar than these animals commonly are. In the evenings it soon became so frolicsome, as to run and jump about his sofa and bed: sometimes in its play it would leap upon him, and pat him with its fore-feet; or, while he was reading, even knock the book out of his hand. But whenever a stranger entered the room, the little creature always exhibited considerable alarm*.

Mr. Borlase saw a Hare that was so familiar as to feed from the hand, lie under a chair in a common sitting-room, and appear in every other respect as easy and comfortable in its situation as a Lap-dog. It now and then went out into the garden; but after regaling itself, always returned to the house as its proper habitation. Its usual companions were a Grey-hound and a Spaniel; both so fond of Hare-hunting, that they often went out together without any person accompanying them. With these two Dogs this tame Hare spent its evenings: they always slept on the same hearth, and very frequently it would rest itself upon them†.

Hares are very much infested with Fleas. Linnaeus tells us that cloth made of their fur will attract

* Townson's Tracts, p. 146.

† Borlase, p. 289.

these insects, and preserve the wearer himself from their troublesome attacks.

Dogs and Foxes pursue the Hare by instinct; Wild Cats, Weesels, and birds of prey, devour it; and Man, far more powerful than all its other enemies, makes use of every artifice to seize upon an animal which constitutes one of the numerous delicacies of his table. Even this poor defenceless beast is rendered an object of amusement, in its chase, to this most arrogant of all animals, who boasts his superiority over the brute creation in the possession of intellect and reason. Wretchedly indeed are these perverted when exercised in so cruel, so unmanly a pursuit :

Poor is the triumph o'er the timid Hare!
Yet vain her best precaution : though she sits
Conceal'd with folded ears ; unsleeping eyes,
By nature rais'd to take th' horizon in ;
And head conceal'd betwixt her hairy feet,
In act to spring away. The scented dew
Betrays her early labyrinth ; and deep
In scatter'd, sullen openings, far behind,
With ev'ry breeze she hears the coming storm :
But nearer, and more frequent, as it loads
The sighing gale, she springs amaz'd, and all
The savage soul of game is up at once.

In India the Hare is hunted for sport ; not only with Dogs, but with Hawks, and some species of the Cat tribe. The flesh, though in esteem among the Romans, was forbidden by the Druids, and by the Britons of the early centuries. It is now, though very black, dry, and devoid of fat, much esteemed by the Europeans, on account of its peculiar flavour.

The female goes with young about a month ; she generally produces three or four at a litter, and this about four times in the year. The eyes of the young ones are open at their birth. The dam suckles them about twenty days, after which they leave her and procure their own food. They make forms at a little distance from each other, and never go far from the place where they were brought forth. The Hare lives about eight years.

THE VARYING HARE *.

This species has a very soft fur ; which in summer is grey, with a slight mixture of tawny : the tail is always white. The ears are shorter, and the legs more slender, than those of the Common Hare ; and the feet more closely and warmly furred. In size, this animal is always somewhat smaller.

Besides other cold parts of Europe, the Varying Hare is found on the tops of the highest Scots hills, never descending to the plains. It will not mix with the last described species, though common in the same neighbourhood. It does not run fast ; and when alarmed, takes shelter in clefts of the rocks.

In September it begins to change its grey coat, and resume its white winter's dress ; in which only the tips and edges of the ears, and the soles of the feet, are black. In the month of April it again becomes grey. It is somewhat singular, that although

* SYNONYMS.—*Lepus Variabilis*. *Linn.*—Alpine Hare. *Forsker.*
Penn. Syn.—Varying Hare. *Penn. Quad.*

this animal be brought into a house, and even kept in stoved apartments, yet it still changes its colour at the same periods as when among its native mountains.

In some parts of Siberia the Varying Hares collect together in such multitudes, that flocks of five or six hundred of them may be seen migrating in spring, and returning in the autumn. Want of sustenance compels them to this: in winter they therefore quit the lofty hills, the southern boundaries of Siberia, and seek the plains and northern wooded parts, where vegetables abound; and towards spring they again return to their mountainous quarters*.

In their white state the flesh is extremely insipid.

THE RABBIT †.

The Rabbit lives in holes in the earth, where she brings forth her young. The fecundity of this animal is truly astonishing. It breeds seven times in the year, and generally produces seven or eight young ones at a time. Supposing this to happen regularly for about four years, the progeny from a single pair will amount to more than *a million*. Their numerous enemies prevent any increase likely to prove injurious to mankind; for besides their affording food to us, they are devoured also by animals

* Penn. Quad. ii. 371.

† SYNONYMS.—*Lepus Cuniculus*. Linn.—Lapin Sauvage. Buffon.—Coney. Ray.—*Shaw's Gen. Zool.* pl. 162.—*Bew. Quad.* 311, 312.

of prey, of almost every description, which make dreadful havoc among them. Yet, notwithstanding this, in the time of the Romans they once proved such a nuisance in the Balearic islands, that the inhabitants were obliged to implore the assistance of a military force from Augustus to exterminate them.

The female goes with young about thirty days. A short time previously to her littering, if she does not find a hole suited to her purpose, she digs one; not in a straight line, but of a zig-zag form. The bottom of this she enlarges every way; and then, with a quantity of hair which she pulls from her own body, she makes a warm and comfortable bed for her young. During the whole of the first two days she never leaves them, except when pressed by hunger; and then she eats with surprising quickness, and immediately returns. She always conceals them from the male, lest he should devour them; and therefore when she goes out, she covers up the hole so carefully that its place is scarcely perceptible to the eye. In this manner she continues her attention for about a month; at the end of which period, the young are able to provide for themselves. Notwithstanding the unaccountable propensity which the male has to devour them when very young, yet when they are brought by the mother to the mouth of the hole, to eat such vegetables as she gets for them, he seems to know them, takes them betwixt his paws, smooths their hair, and caresses them with great tenderness.

Rabbits, as they cannot easily articulate sounds,

and are formed into societies that live under ground, have a singular method of giving alarm. When danger is threatened, they tramp on the earth with one of their hind feet; and thus produce a sound that can be heard a great way by animals near the surface. This, Dr. Darwin, from its singularity, and its aptness to the situation of the animals, concludes (though apparently upon false grounds) to be an artificial sign, and merely acquired from their having experienced its utility. He will not allow of any thing like an instinctive propensity.

We have the following account in Dr. Anderson's *Recreations of Agriculture*, of the regular production of a singular variety of the Rabbit, with only one ear.—“A gentleman of my acquaintance chanced to find a Rabbit among his breed that had only one ear; he watched the progeny of that creature, and among them he found one of the opposite sex that had only one ear also: he paired these two Rabbits together; and has now a breed of Rabbits one-eared, which propagate as fast, and as constant produce their like, as the two-eared Rabbits from which they were originally descended.”

The fur of the Rabbit is very useful in the manufacture of hats. The flesh, which was forbidden to the Jews and Mahometans, is well known to be very delicate.

THE ALPINE HARE*.

The Alpine Hare is about nine inches in length. It has a long head and whiskers; and above each eye there are two very long hairs. The ears are short and rounded. The fur is dusky at the roots, of a bright bay at the ends, slightly tipped with white, and intermixed with long dusky hairs: at first sight, however, the animals seem of a bright, unmixed bay colour.

Their most southern residence is on the Altaic chain of mountains near lake Baikal, in Siberia; and they extend from thence as far northward as to Kamtschatka.—They are always found in the middle regions of the snowy mountains, where these are clad with woods, and where herbs and moisture abound. They sometimes burrow between the rocks, but more frequently lodge in the crevices. They are generally found in pairs; but in bad weather they collect together, lie on the rocks, and whistle so much like the chirp of Sparrows, as easily to deceive the hearer. On the report of a gun they run off into their holes; whence, however, if nothing more is heard, they soon return.

By the usual wonderful instinct of similar animals, they make a provision against the rigorous season in their inclement seats. A company of them, towards autumn, collect together vast heaps of favourite herbs and grasses, nicely dried; which they place

* SYNONYMS.—*Lepus Alpinus*. *Lin.*—Mountain Hare. *Kerr*.—*Shaw's Gen. Zool.* pl. 163.

either beneath the overhanging rocks, or between the chasms, or around the trunk of some tree. The way to these heaps is marked by a worn path ; and in many places the plants appear scattered, as if to be dried in the sun and harvested properly. The heaps are formed like round or conoid ricks ; and are of various sizes, according to the number of the society employed in forming them. They are sometimes about a man's height, and usually three or four feet in diameter.

Thus they wisely provide their winter's stock : without which they must, in the cold season, infallibly perish ; being prevented by the depth of snow, from quitting their retreats in quest of food. They select the most excellent vegetables, and crop them when in the fullest vigour. These they make into the best and greenest hay, by the very judicious manner in which they dry them. The ricks they thus form are the origin of fertility among the rocks ; for the relics, mixed with the dung of the animals, rot in the barren chasms, and create a soil productive of vegetation.

These ricks are also of great service to that part of mankind who devote themselves to the laborious employment of Sable-hunting ; for, being obliged to go far from home, their horses would often perish for want, had they not the provision of these industrious little animals to support them. They are easily to be discovered by their height and form, even when covered with snow.

The people of Jakutz are said to feed both their

Horses and Cattle on the remnant of the winter stock of these Hares.—As food, the Alpine Hares are themselves neglected by mankind ; but they are the prey of the Sables and the Siberian Weasel.

“ Were ev’ry falt’ring tongue of Man,
Almighty Father ! silent in thy praise,
Thy works themselves would raise a general voice ;
Even in the depth of solitary woods,
By human foot untrod, proclaim thy power.”

APPENDIX.

THE following information, respecting the manners of some of the Quadrupeds, that, within the last ten or twelve years, have been brought into England, was obtained too late to admit of its being incorporated into the body of the work. Rather, however, than it should be lost to the reader, I have inserted it here by way of Appendix. It principally relates to such as have been deposited in the Exhibition rooms at Exeter 'Change, and in the menagerie at the Tower of London.

THE SINGLE-HORNED RHINOCEROS *.

THE only two animals of this species that have been brought into England during the last half century, were both purchased for the exhibition rooms at Exeter 'Change. One of them, of which the skin is still preserved, came from Laknaor, in the East Indies, and was brought over in the Melville Castle, East Indiaman, as a present to Mr. Dundas. This gentleman, not wishing to have the trouble of keeping him, gave the animal away. Not long afterwards he was purchased by Mr. Pidcock of Exeter 'Change, for the sum of 700*l*. He arrived in Eng-

* See vol. i. p. 110.

land in the year 1790, and is supposed to have been at that time about five years old.

He exhibited no symptoms of a ferocious propensity, and would even allow himself to be patted on the back or sides by strangers. His docility was about equal to that of a tolerably tractable Pig: he would obey the orders of his keeper, to walk about the room, and exhibit himself to the numerous spectators who came to visit him.—This animal usually ate every day twenty-eight pounds weight of clover, besides about the same weight of ship biscuit, and a vast quantity of greens. His food was invariably seized in his long, and projecting upper lip, and by it conveyed into the mouth. He was allowed also five pails of water twice or thrice a day. This was put into a vessel that contained about three pails, which was filled up as the animal drank it; and he never ended his draught till the water was exhausted. He was very fond of sweet wines, of which he would often drink three or four bottles in the course of a few hours. His voice was not much unlike the bleating of a Calf. It was most commonly exerted when the animal observed any person with fruit or other favorite food in his hand, and in such cases it seems to have been a mark of his anxiety to have it given him. During the severe illness which preceded his death this noise, but in a more melancholy tone, was almost constantly heard, occasioned doubtless by the agonies that he underwent.

In the month of October, 1792, as this Rhinoceros was one day rising up very suddenly, he slipped the joint of one of his fore legs. This accident

brought on an inflammation that about nine months afterwards occasioned his death. It is a singular fact that in the incisions which were made, on the first attempts to recover the animal, through his thick and tough hide, the wounds were invariably found to be healed in the course of twenty-four hours. He died in a caravan at Corsham near Portsmouth. When the carriage arrived at the latter place, the stench arising from the body was so offensive, that the Mayor was under the necessity of ordering it to be immediately buried. This was accordingly done, on South Sea Common. About a fortnight afterwards, during the night, and unknown to any of the people of Portsmouth, it was dug up for the purpose of preserving its skin, and some of the most valuable of the bones. The persons present declared, that the stench was so powerful, that it was not without the greatest difficulty they could proceed in their operations. It was plainly perceptible at the distance of more than half a mile.

The other Rhinoceros that was at Exeter 'Change was considerably smaller than this, and was likewise a male. It was brought over about the year 1799, and lived not more than twelve months afterwards. An agent of the Emperor of Germany purchased it of Mr. Pidcock for 1000*l*. It died in a stable-yard in Drury Lane, after he had been in possession of it about two months.

THE ELEPHANT *.

After the full account that I have already given of the manners of the Elephant in a state of domestication, it will be needless to add much in this place respecting any of these animals that have been brought into England. Confined to the very small apartment at Exeter 'Change, or within the narrow limits of a caravan, much new information cannot be expected, nor indeed has much been obtained.

The Elephant that died last year, at Exeter 'Change, was brought over in the *Rose East India-man*, and purchased by Mr. Pidcock for 1000*l.*—He was usually fed with hay and straw, but he always preferred the latter. The quantity that he ate could not exactly be ascertained, since he scattered about a great portion of what was given him for food, and also ate a considerable quantity of the straw with which he was littered. He would eat with great avidity, bread, carrots, cabbages, and boiled potatoes. The quantity of water allowed him was about nine pails a day, given at three different times. He was excessively fond of beer, and all kinds of spirituous liquors. He has been known to drink upwards of fifty quarts of beer in a day, given by the different persons who came to visit him, and were desirous of observing the mode in which he conveyed fluids to his mouth.

* See vol. i. p. 122.

THE HYÆNA*.

These animals are to be seen in most of the exhibitions of wild beasts in this country. They are excessively ravenous and ferocious; and their jaws are much stronger than those of the generality of their tribe. The keepers represent the old animals as invariably malignant and indocile. The keeper of the Tower, however, informed me that seven or eight years ago, there was one at Exeter 'Change, about six months old, so very tame that he was occasionally suffered to come out of his den, and run about the exhibition room †. The animal would allow even strangers to approach and pat him with their hands, exhibiting no symptoms whatever of displeasure: he seemed fond of playing with any of the Dogs that happened to come into the room. Still, however, there was a considerable degree of sullenness and ill-nature in his disposition, which, with his age, appeared every day to increase. After being at Exeter 'Change about two months, he was sold to a Mr. Tennant of Pentonville, a dealer in animals. This person, with only a single string fixed to the animal's collar, suffered him twice or thrice to go out with him into the fields. He was soon afterwards sold to the owner of a caravan, for the purpose of exhibition. From the unusual confinement, his disposition al-

* See vol. i. p. 235.

† In this act he appeared always to run on one side, as though he had been weak in the loins.

most immediately became fierce, and he would no longer admit of the approach and carresses of his visitors. He did not long survive this change of life, but gradually pined away till he died.

Mr. John Hunter had at Earle's Court, an Hyæna, near eighteen months old, that was so tame as to admit strangers to approach and touch him. On Mr. Hunter's death he was sold to a travelling exhibitor of animals. For a few months previously to his being carried into the country, he was lodged in the Tower. The keeper informs me that he there continued tolerably gentle, so much so as to allow a person who knew him, to enter the den and handle him. When he was confined in the caravan he soon exhibited symptoms of ferocity equal to those of the most savage Hyænas. He was at last killed by a Tiger, the partition of whose den from his own, he had torn down by the enormous strength of his jaws.

The Hyæna in confinement is allowed about four pounds weight of food in the day; and he laps about three pints of water.

The value of a full-grown Hyæna for exhibition is from ten to thirty pounds.

THE SPOTTED HYÆNA *.

This is a larger, more strong and voracious animal than the last. The strength of its jaws is so great that it eats without difficulty even the strongest

* See vol. i. p. 240.

and hardest bones. It is usually fed with such as are the refuse of other animals. These in the stomach are perfectly digested. Whenever this Hyæna is interrupted or disturbed whilst eating, or even if any one is only looking on, it makes a singular kind of laughing noise, whence most of the exhibitors call it the *Laughing Hyæna*.

Of the strength in the muscles of the jaws and neck of this Hyæna, the following is a very remarkable instance. The den of the animal now in the Tower wanted some repairs. These the carpenter completed by nailing on the floor a thick oak plank, of seven or eight feet in length, with at least a dozen nails, each longer than the middle finger of the hand. At one end of this plank there was however a small piece left that stood up higher than the rest, and the man not having a proper chisel along with him to cut it off, he returned to his shop for one. During his absence some persons came in to see the animals, and this Hyæna was let down by the keeper from the other part of his den. He had scarcely been in the place a moment before he espied the piece that was left at the end of the plank, and seizing hold of it in his teeth, tore the plank completely up, drawing every nail.

This animal is, notwithstanding, much more gentle than most of the individuals of the other species. The keeper can venture to pat and caress him, and even to enter his cage at all times except when he is feeding. In suffering these liberties he seems, however, actuated by terror, rather than by his natural inclination, for in all these acts the man finds it no-

cessary to have a stick in his hand. He does not pay the same respect to animals that come in his way. A soldier who some time ago visited the Menagerie of the Tower, brought along with him a small terrier Dog. The fellow ridiculously held him up to the den of the Hyæna ; and on seeing the animal, the Dog was irritated, barked at him, and in his rage thrust his head between the bars. The furious beast sprung upon him, dragged him through into the den and almost in an instant devoured him.

The keeper says that it is a very difficult thing to hit his animal through the bars of his den with a stick. His activity and strength are so great that he always seizes it in his teeth.

THE LION *.

The Lion, in confinement, is usually allowed about four pounds weight of raw flesh for his daily subsistence ; and he seldom laps more than a quart of water in the day. However gentle and docile these animals may have been rendered by their keepers, no one can approach them during the time they are feeding, without almost a certainty of their avenging the interruption. Even where the animals have become attached to Dogs that have been put into their dens, it has been generally considered necessary to separate them when the Lions were fed. A Lioness in the Tower would allow a Dog to eat with her, but not without occasional signs of displeasure. None of the animals can on any account

* See vol. i. p. 262.

be fed from the hand even of their most intimate keeper.

A Lion and Lioness brought over together from Africa, about twelve years ago, were kept in the same den at Exeter 'Change. They were each about eighteen months old, and were attended by a negro who had reared them from whelps, and had come over along with them. This man would enter their den with the greatest safety, when they would fawn upon, and play round him, exactly like kittens. He frequently had a table in their den, with pipes and glasses; and sitting down there would quietly smoke his pipe. If on these occasions their frolics were too boisterous, he had only to stamp his foot, and by his countenance to express his displeasure, and they would immediately cease, and quietly lie down by his side. But it was not on all occasions that even this man would venture himself with them. If they were irritated by the spectators, as through mere wantonness they sometimes were, he always refused to enter their den: and it is not recollected that he ever did it whilst they were feeding. When this man left Exeter 'Change the female took his loss so much to heart that she pined away, and died not long afterwards.

Lions have suffered Dogs to live in the same den with them, but no instances have occurred in England of their allowing so great a privilege to any other animals.—A Lion called Hector, now in the Tower, had been some days very ill, when to try the experiment, a live Rabbit was put into his den. It was suffered to remain here uninjured one whole

night and the next day ; and some hopes began to be entertained that it would be permitted to share the apartment with the noble animal in quiet. But on the morning following the second night, it was found dead. The Lion had not, however, attempted to devour it, for the skin was not in the least lacerated ; but when this was stripped off, there were on each side of the body the evident marks of his teeth. —In another instance, of a similar kind, a Cat had accidentally crept among the straw of his bed-place, but the moment he discovered her, he sprang upon and destroyed her. In this case also he left the body undevoured.

The Lions in the Tower generally begin to roar in the evening just before the night closes in. A Lioness that was bred in the Tower, regularly roars at six o'clock in the evening through both winter and summer. This is almost always within five minutes, one way or the other, of the striking of the clock. This practise is supposed to have originated in winter, and from the noise of the drums, which, during that part of the year, always beat at six o'clock. It is, however, somewhat strange that she should have continued this exactly at the same hour through the whole year. since, for several months, the drums are not beat till eight o'clock. These animals usually roar on the approach of rainy weather ; and much more on Sunday than any other days, from the circumstance of their being then almost entirely by themselves.

The value of a full grown Lion in this country.

is now about 300l.; whilst that of a Lioness is not more than 100l.

THE TIGER *.

The Tiger that I have described in vol. i. p. 285, arrived in this country in the year 1790. He was brought over, when only ten months old, in the Pitt East Indiaman, belonging to Mr. Alderman Macaulay, and given to Mr. Nepean, on condition that he should be presented to the king, which was accordingly done. He was afterwards deposited in the Tower, where he still remains. I have already mentioned his extremely playful and gentle disposition whilst on board the vessel which brought him over, and although he has now been kept in the Tower near thirteen years, he still continues tame. He has in no instance been guilty of any ill-natured or mischievous tricks. He is called *Harry*, and to that name answers all the commands of his keeper.

In the year 1801, one day after the Tiger had been fed, his keeper put into the den to him a small, rough, black, Terrier puppy, a female. The beast suffered it to remain uninjured, and soon afterwards became so much attached to it, as to be very restless and unhappy whenever the animal was taken away to be fed. On its return the Tiger invariably expressed the greatest symptoms of pleasure and delight, always welcoming its arrival by gently licking over every part of its body. In one or two instan-

* See vol. i. p. 283.

ces, the Terrier was left in the den by mistake, during the time the Tiger had his food. The Dog sometimes ventured to eat along with him, but seldom without his appearing dissatisfied with the liberty. This Terrier after a residence with the Tiger of several months, was removed to make way for a little female Dutch mastiff. It was thought adviseable before the Terrier was taken away, to shut up the little mastiff for three or four days among the straw of the Tiger's bed, to take off, if possible, any smell that might be offensive to the animal. The exchange was made soon after the animals had been fed: the Tiger seemed perfectly contented with his new companion, and immediately began to lick it as he had before done the Terrier. It seemed at first in considerable alarm with so formidable an inmate, but in the course of the day became perfectly reconciled to its situation. This diminutive creature he would suffer to play with him, with the greatest good-nature. I have myself seen it bark at him, and bite him by the foot and mouth without his expressing the least displeasure. When the Dog, in its frolick seized his foot, he merely lifted it up out of its mouth, and seemed otherwise heedless of its attacks. During the time she was in the habit of daily visiting the Tiger, she happened to be with young, and at the time of parturition was necessarily absent from him two or three whole days. The Tiger in this absence was extremely agitated and uneasy, as he was afterwards whenever she happened to be detained from him a greater while than usual in feeding her young ones. She died about

five weeks after this time, supposed to have been trodden upon by some person who came to see the animals ; and many days elapsed before the Tiger became reconciled to her absence.

Strange Dogs have several times been put into the Tiger's den after his feeding, and he has in no instance attempted to injure them. Mr. E. Cross, the late keeper informs me that the animal's docility is such, that he thinks he could himself with safety venture into the den.—The ship carpenter, who came over with the Tiger, after an absence of more than two years came to the Tower to see him. The animal instantly recognized a former acquaintance, rubbed himself backward and forward against the grating of his den, and appeared highly delighted. Notwithstanding the urgent request that he would not expose himself to the danger, the man begged to be let into the den with so much intreaty, that he was at last suffered to enter. The emotions of the animal seemed roused in the most grateful manner. He rubbed against him, licked his hands, fawned upon him like a Cat, and in no respect attempted to injure him. The man remained here for two or three hours ; and he at last began to fancy there would be some difficulty in getting out alone. Such was the affection of the animal towards his former friend, and so close did he keep to his person, as to render his escape by no means so easy as he had expected. With some care, however, he got the Tiger beyond the partition of the two dens, and the keeper watching his opportunity, closed the slide, and separated them.

Tigers are fed with raw meat, and they are usually allowed four or five pounds weight in the day : they lap about three pints of water.

The value of a full-grown Tiger, in this country, is from fifty to a hundred pounds.

THE PORCUPINE *.

Although Porcupines, in their general manners, are very harmless and inoffensive animals, yet they appear to have no particular attachment to their keeper. They will eat bread or roots out of his hand, or suffer him to lead them about by a string fastened to their collar. One that was in the Tower would even allow its keeper to take it up under his arm : to do this without wounding himself with its quills, required however considerable dexterity, since it was first necessary to close these to the animal's body, by sweeping his arm along the direction in which they grew.

These animals usually sleep in the day, and become awake and active towards evening. Very little food will support them, and they are never known to drink. They gnaw the wood-work of their dens so much, that if there was not much iron about them they would soon escape, even from the strongest places.

Whenever they are irritated or offended they stamp forcibly on the ground with their hind-feet, somewhat in the manner of Rabbits. In this act they

* See vol. i. p. 405.

shake all their quills, but more particularly those about the tail ; and at the same time exert their voice, which is a kind of grunting noise.—The keeper informs me, that whenever a Porcupine attempts to injure any person who disturbs him in his cage, he turns round and runs backward upon him. This seems by no means improbable, since the direction of the quills is from the fore-part backward, and by this act alone he is enabled to act seriously on the offensive.

THE BEAVER *.

THERE are at present in the upper room at Exeter 'Change two male Beavers, which have been there about three years. They are very tame, and will suffer themselves to be handled by the visitors, but most persons are alarmed on approaching them by the animals' uttering their small and plaintive cry. This noise they also frequently emit during their play with each other. They are at times exceedingly gay and frolicsome, wrestling and playing with each other, as far as the limits of their small apartment will admit. They often sit upright to look about them, or sometimes to eat ; and, if any thing moveable be given them to play with, they drag it about, and seem highly pleased with it. They have in no instance been observed to drag any thing about on their tails, or to make any attempts to do so. In all their manners these animals are extremely cleanly.

* See vol. i. p. 413.

They are fed with the bark of trees, and on bread; and such is their propensity to gnaw wood, that it is by no means safe, notwithstanding the natural gentleness of their disposition, to allow them the full range of a room, for they would soon eat their way out, and escape.

THE ZEBRA *.

Several of these animals have at different times been brought into England. There is one at present in the Tower, which was deposited there in June last. It was brought from the Cape of Good Hope by lieutenant general Dundas; and was afterwards purchased by Mr. Bullock, the master keeper of the animals in the Tower.

This animal, which is a female, is more docile than the generality of Zebras that have been brought into Europe; and when in good humour, she is tolerably obedient to the commands of her keeper, the servant of the general who attended her during the voyage. This man, with great dexterity, can spring on her back, and she will carry him a hundred and fifty, or two hundred yards, but by the time she has done this, she always becomes restive, and, with almost equal dexterity, he is obliged to dismount. Sometimes when irritated she plunges at the keeper, and attempts to kick him. She one day seized him by the coat with her mouth, and threw him upon the ground, and had not the man

* See vol. ii. p. 112.

been extremely active in rising and getting out of her reach, would certainly have destroyed him. He has at times the utmost difficulty to manage her, from the irritability of her disposition, and the great extent, in almost every direction, to which she can kick with her feet, and the propensity she has of seizing whatever offends her, in her mouth. Strangers she will by no means allow to approach her, unless the keeper has hold of her head, and even then there is great risque of a blow from her hind feet.

The beautiful male Zebra that was burnt, some years ago at the Lyceum, near Exeter 'Change *, was so gentle, that the keeper has often put young children upon its back, and without any attempt from the animal to injure them. In one instance, a person rode it from the Lyceum to Pimlico. But this unusual docility in an animal naturally vicious is to be accounted for, from its having been bred and reared in Portugal, from parents that were themselves half reclaimed.—On the authority of Mr. Church, I have stated this Zebra to have been burnt “from the mischievous act of a Monkey, setting fire to the straw on which he lay.” This, however, was not exactly the case. The keeper informs me, that he had left the room in which it was kept, for the purpose of warming some milk for a Kangaroo, when, during his absence, a light from a tin hoop, suspended by a string from the ceiling, burning through its socket, dropped upon the straw,

* See vol. ii. p. 112.

and set fire to it.—This animal was bought by the exhibitor for three hundred pounds.

Zebras are fed with hay.—Their voice can scarcely be described : it is thought by some persons to have a distant resemblance to the sound of a post horn. It is made more frequently when the animals are alone than at other times. The Zebra now in the Tower has never been heard to exert its voice.

END OF THE FIRST VOLUME.

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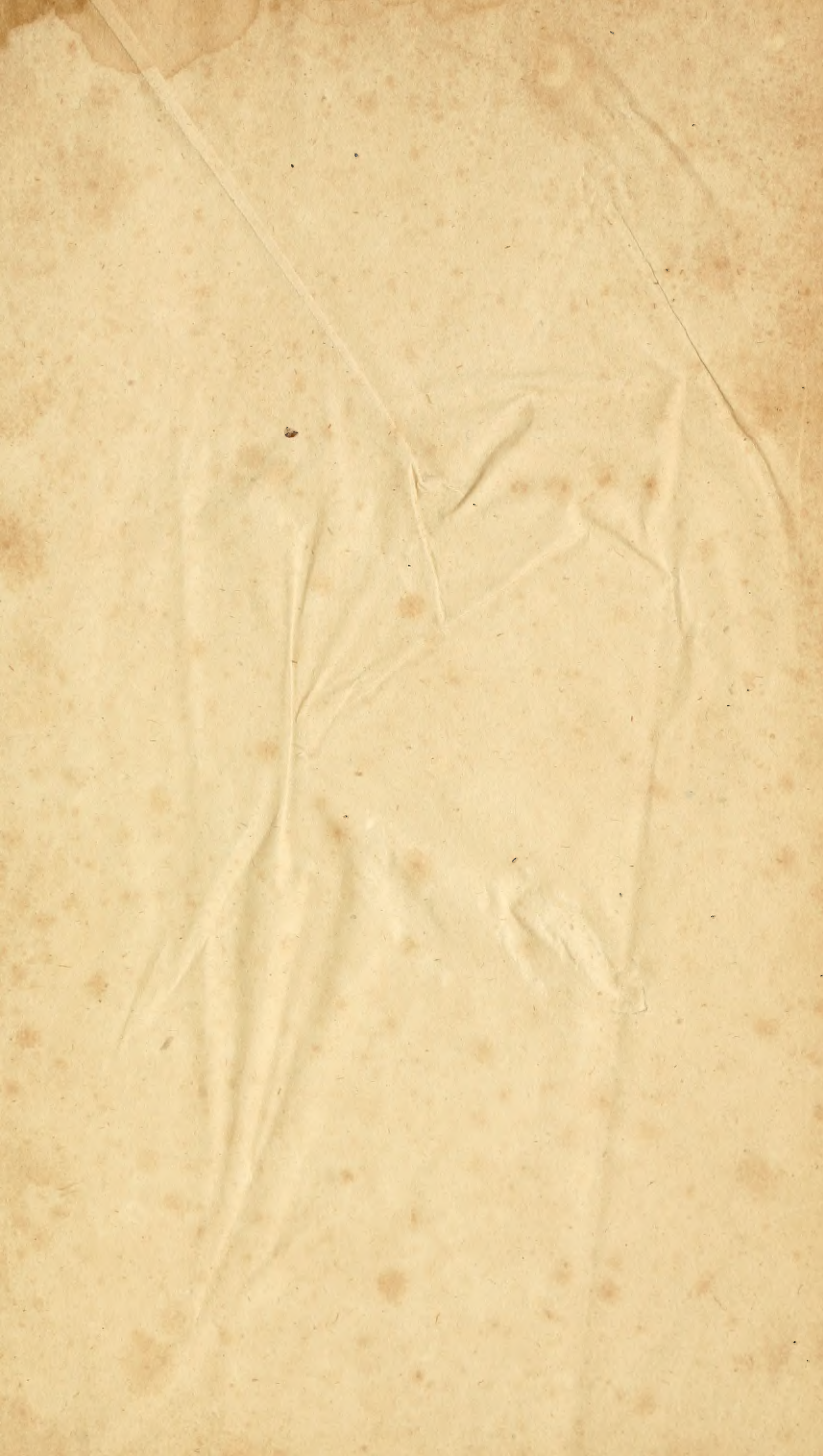
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